

FIG. 2

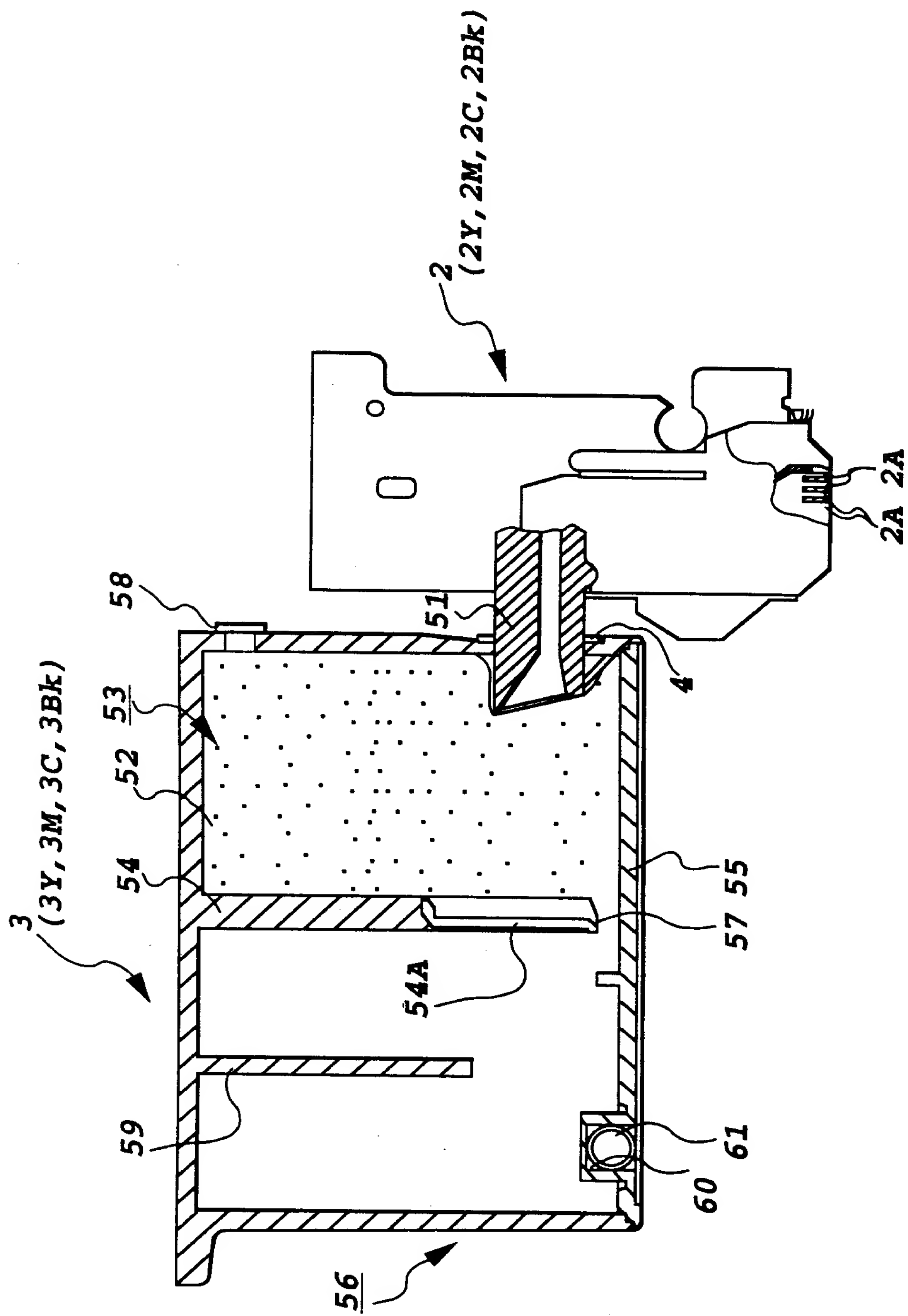


FIG. 3

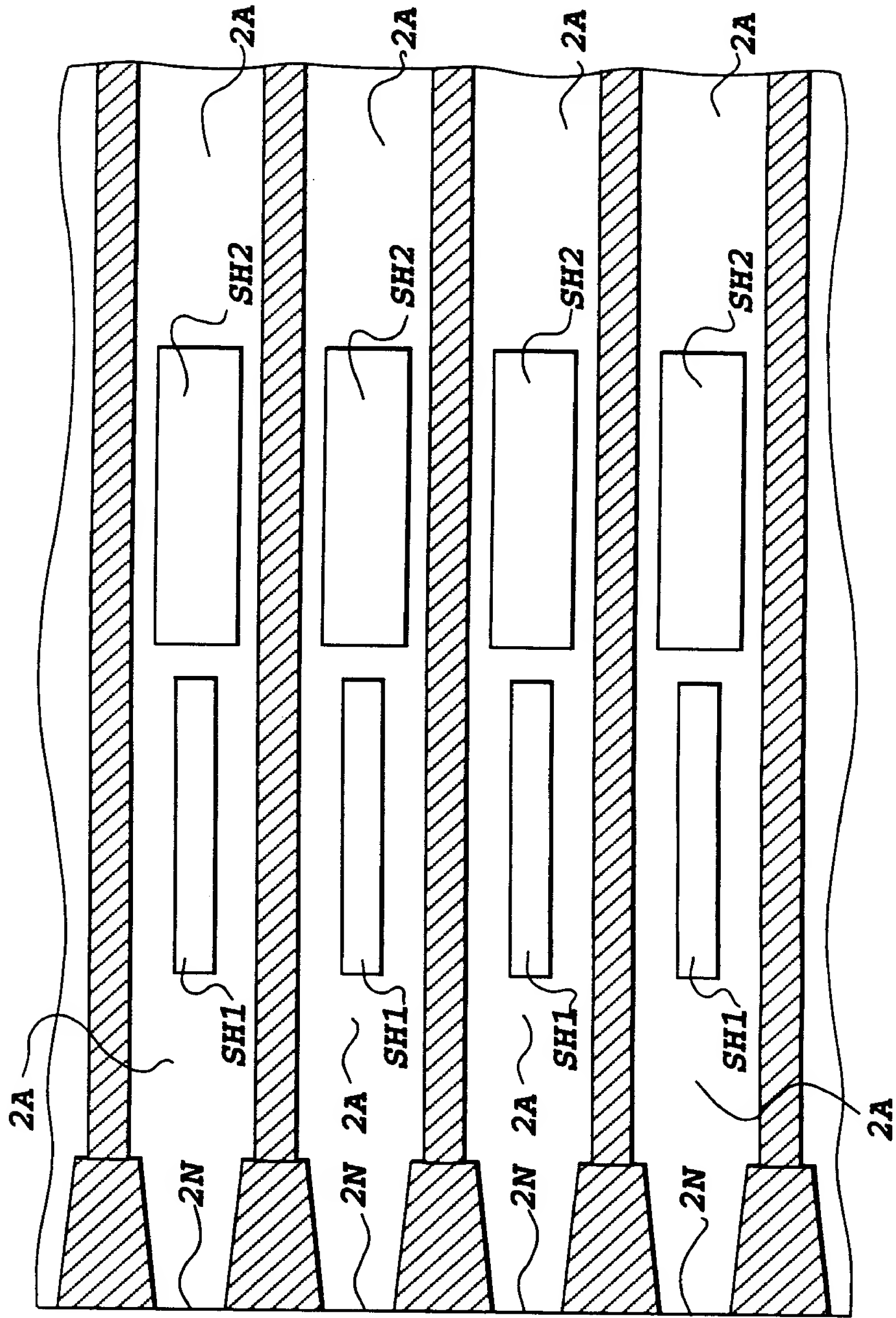


FIG.4

FIG. 5

FIG. 5A
FIG. 5B

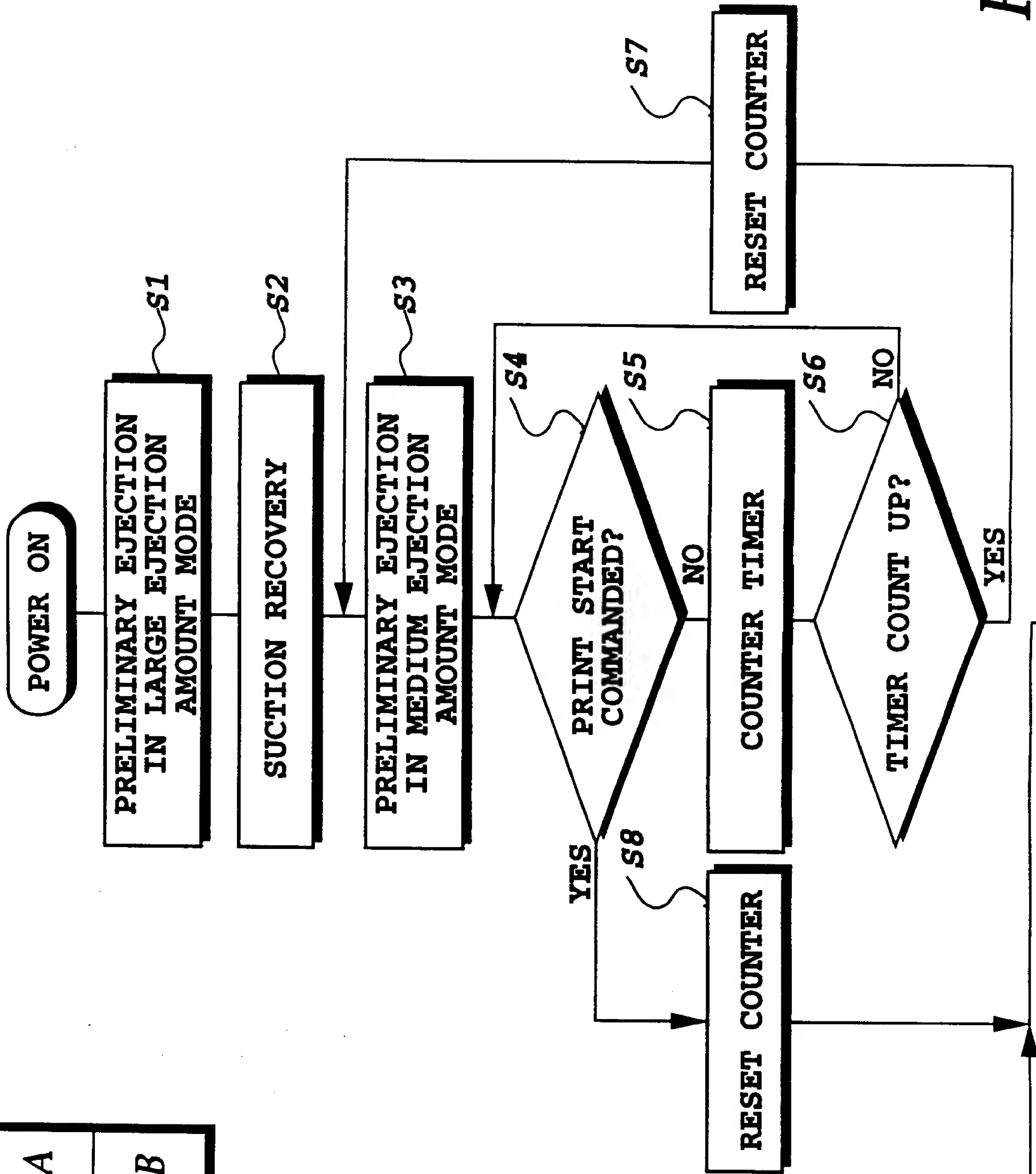


FIG. 5A

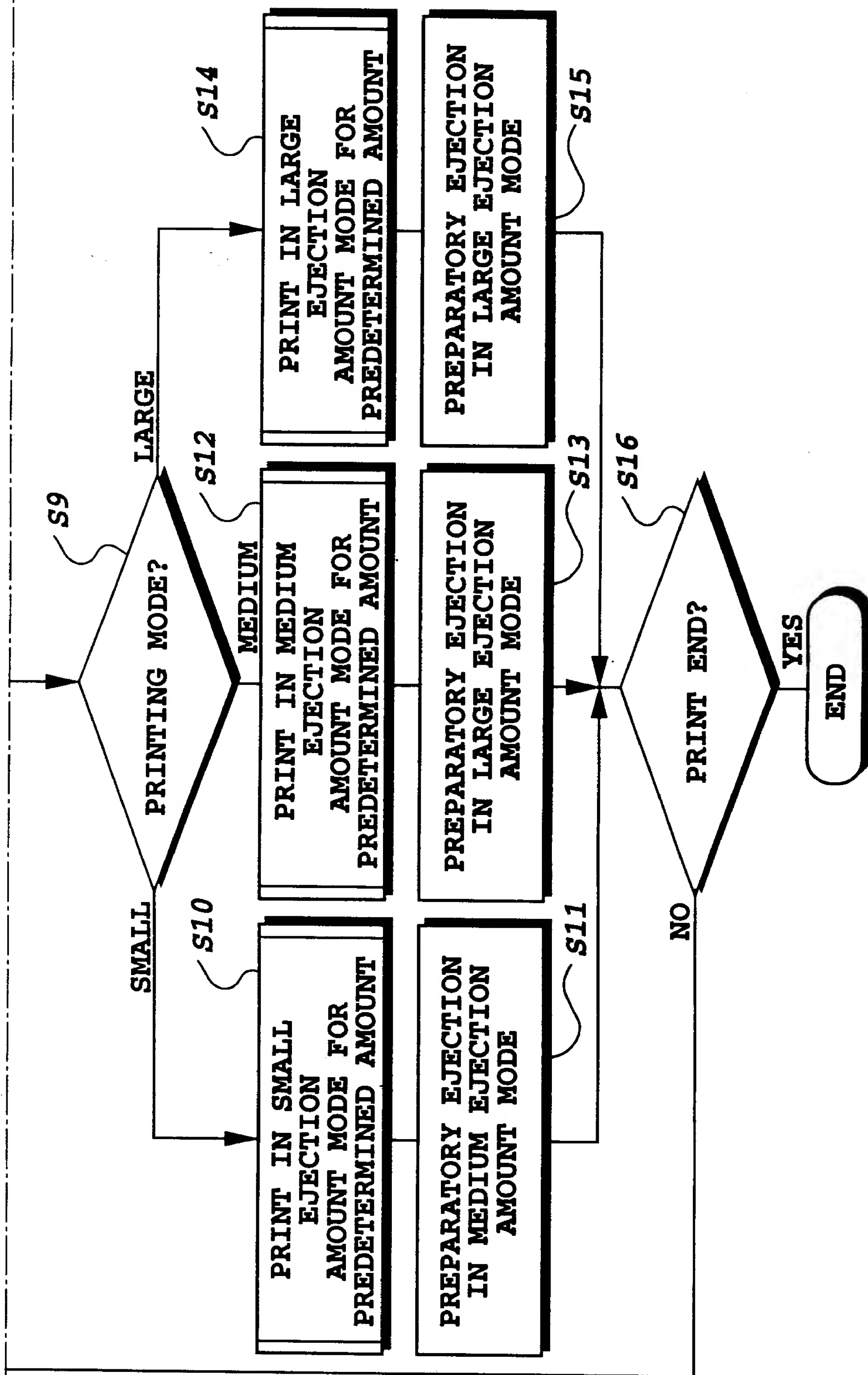


FIG5B

7/81

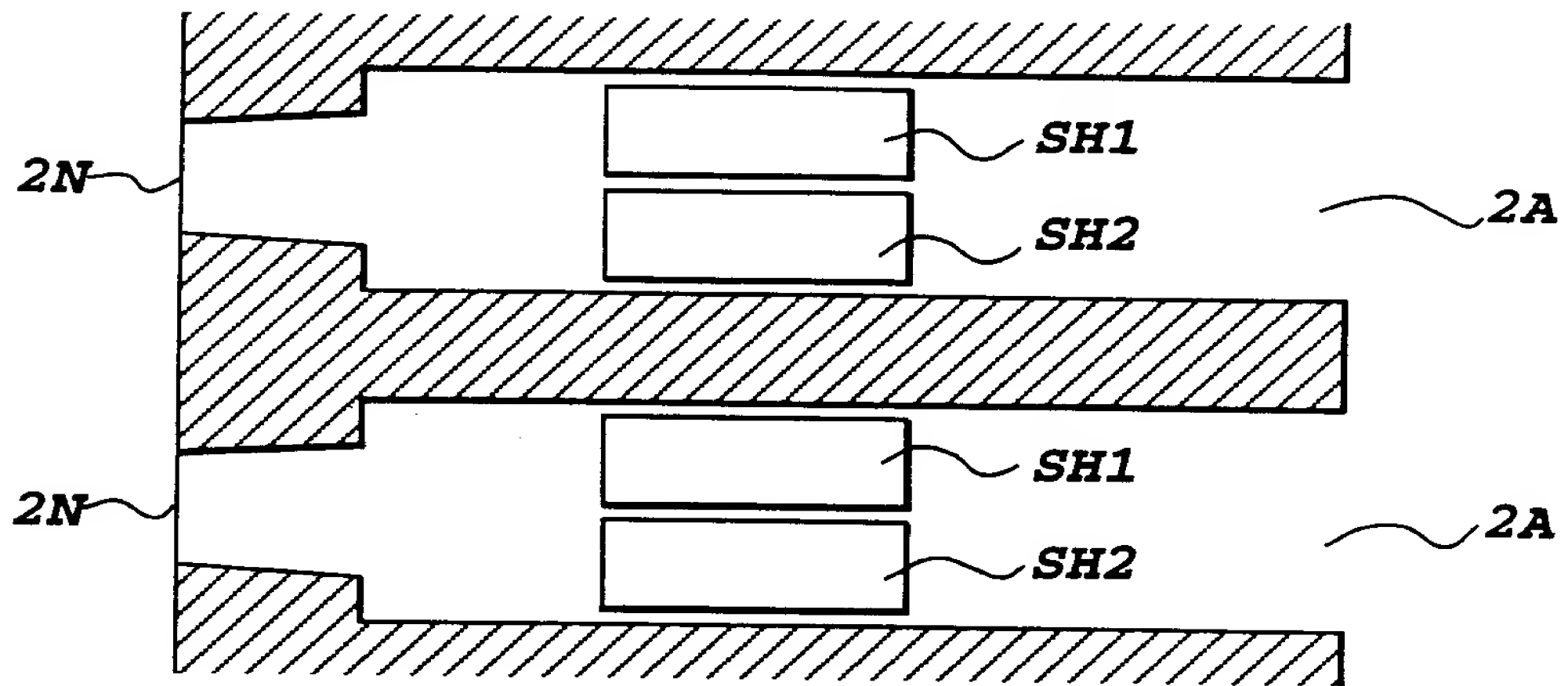
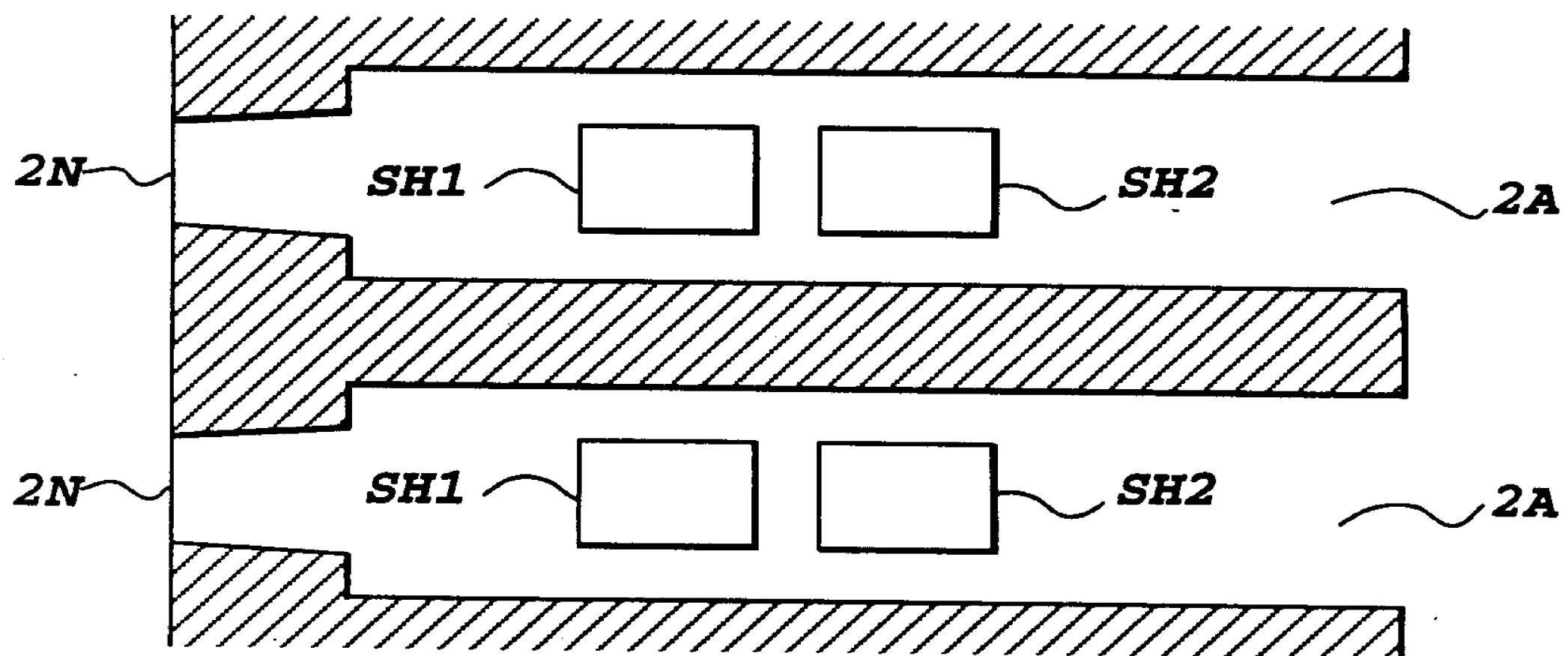
**FIG. 6A****FIG. 6B**

FIG. 7

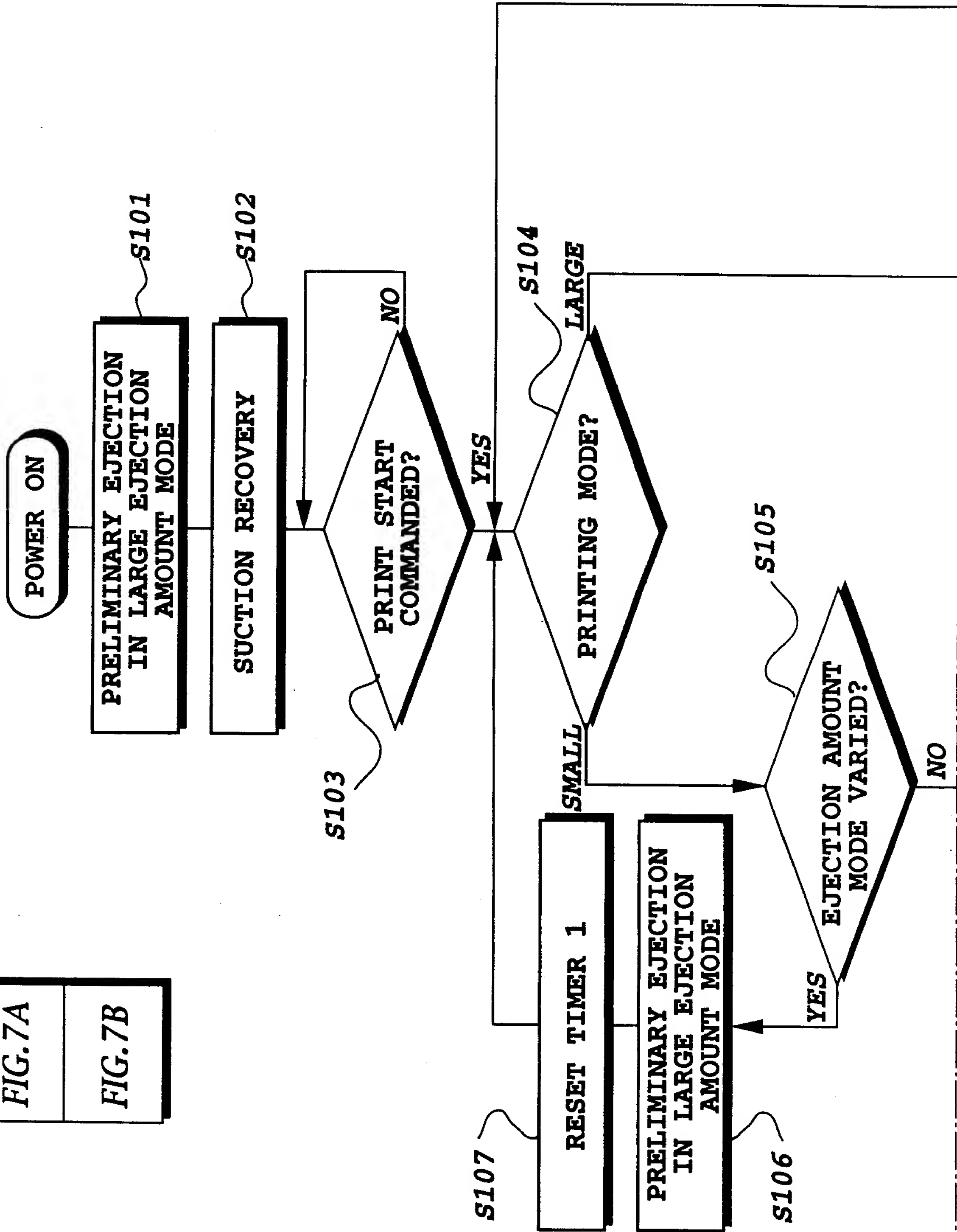
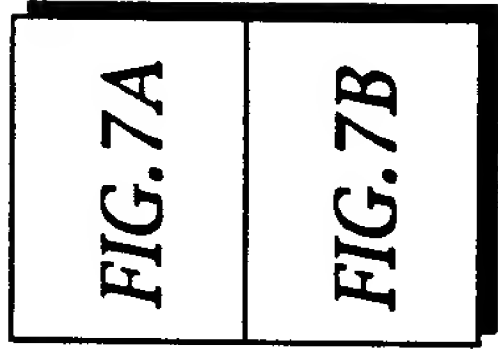
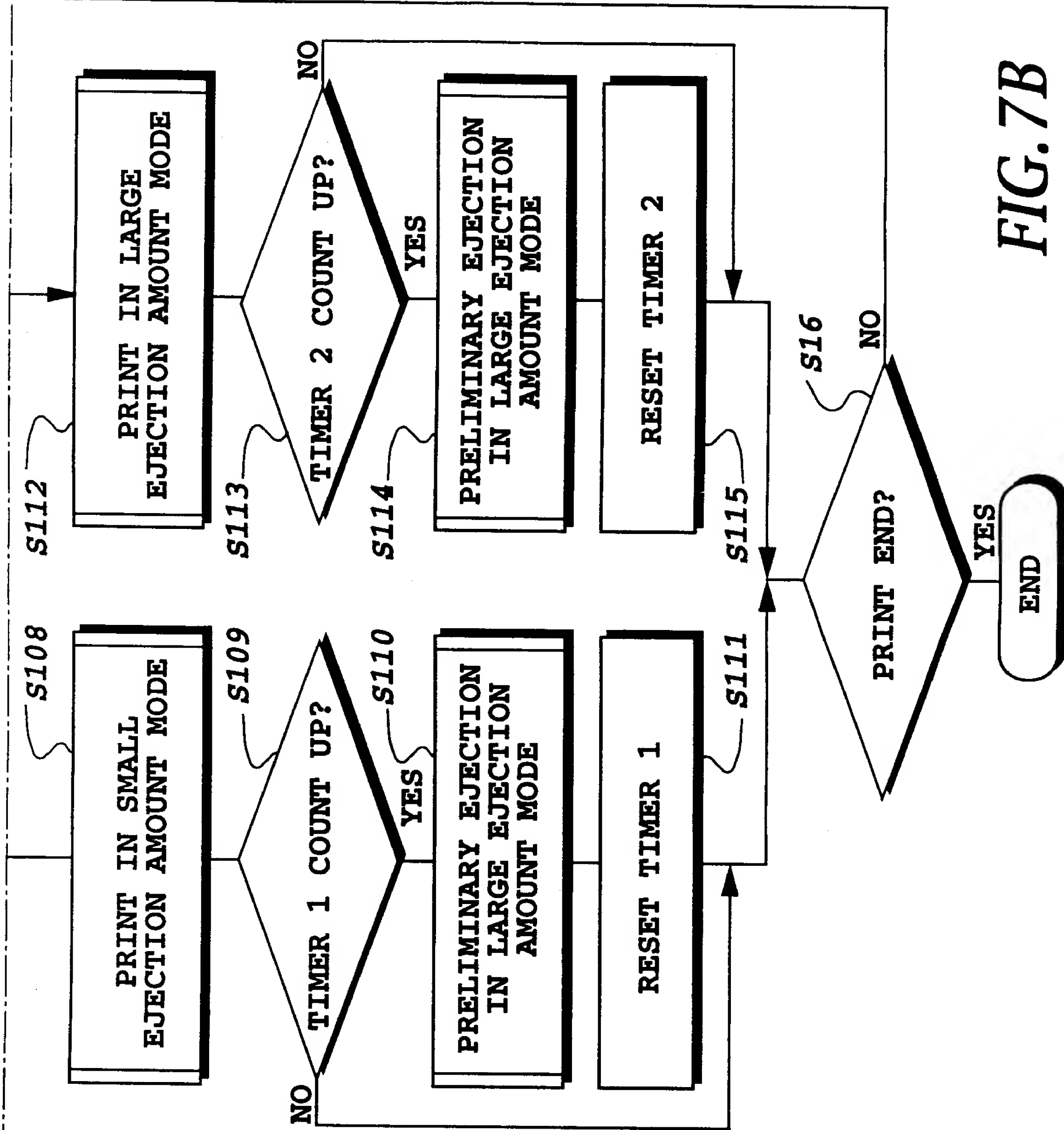
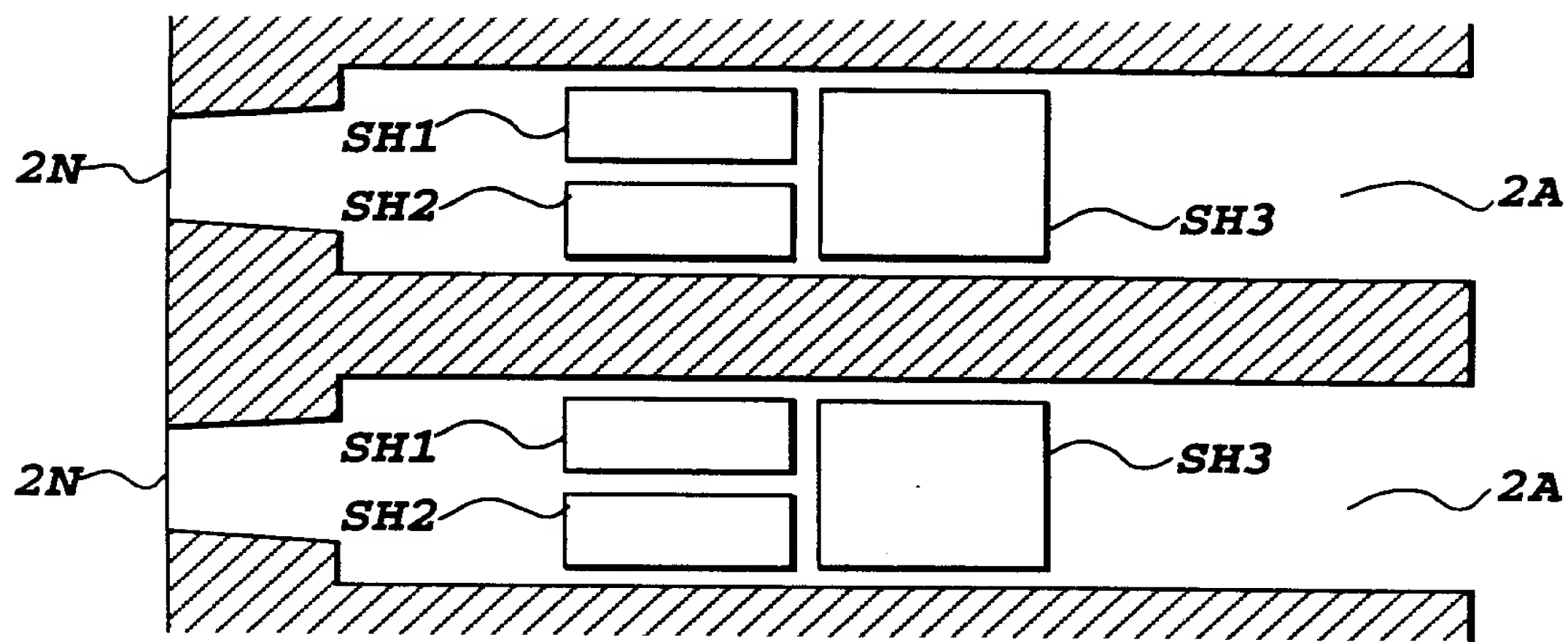


FIG. 7A







**FIG. 8**

11/81

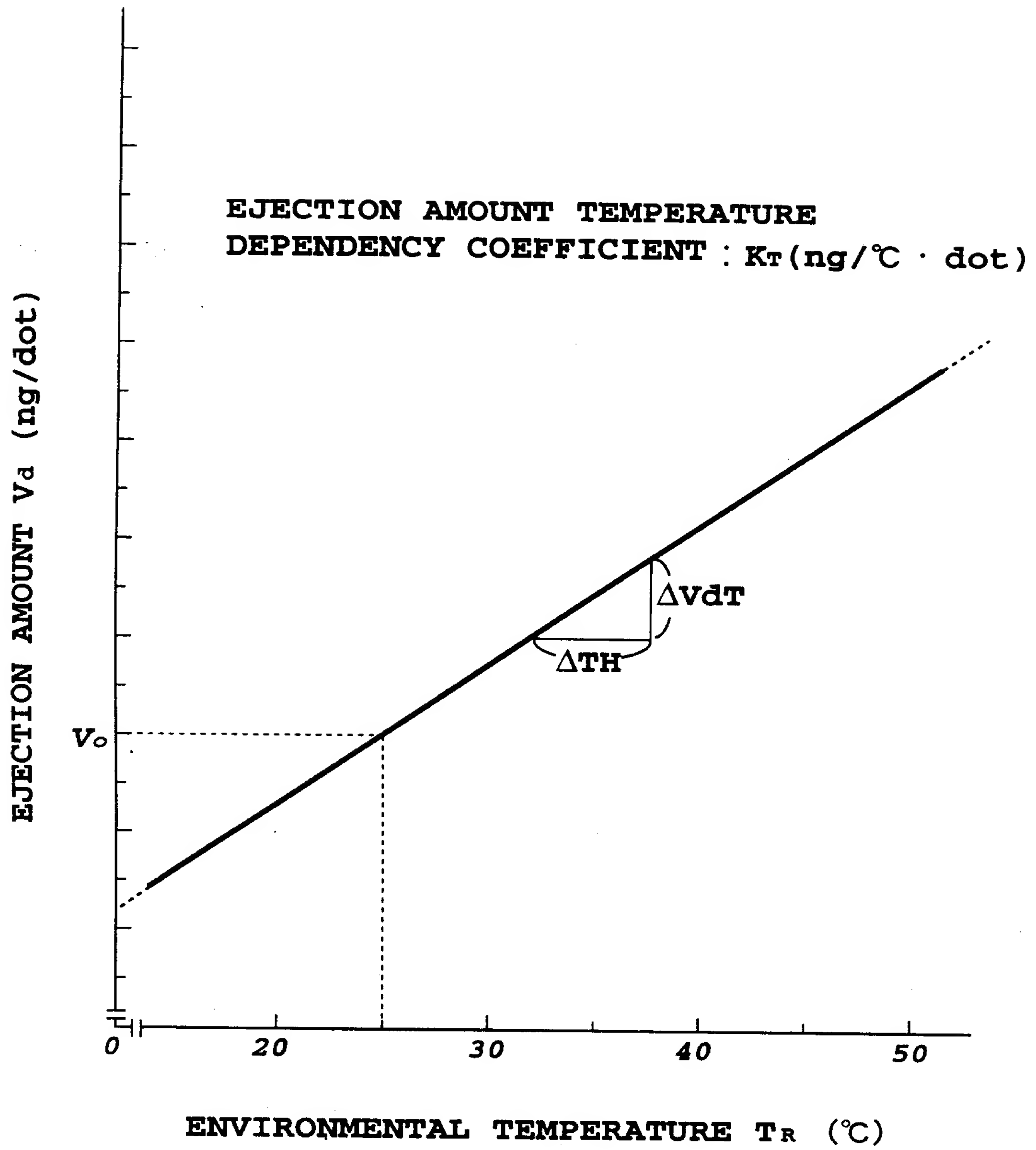
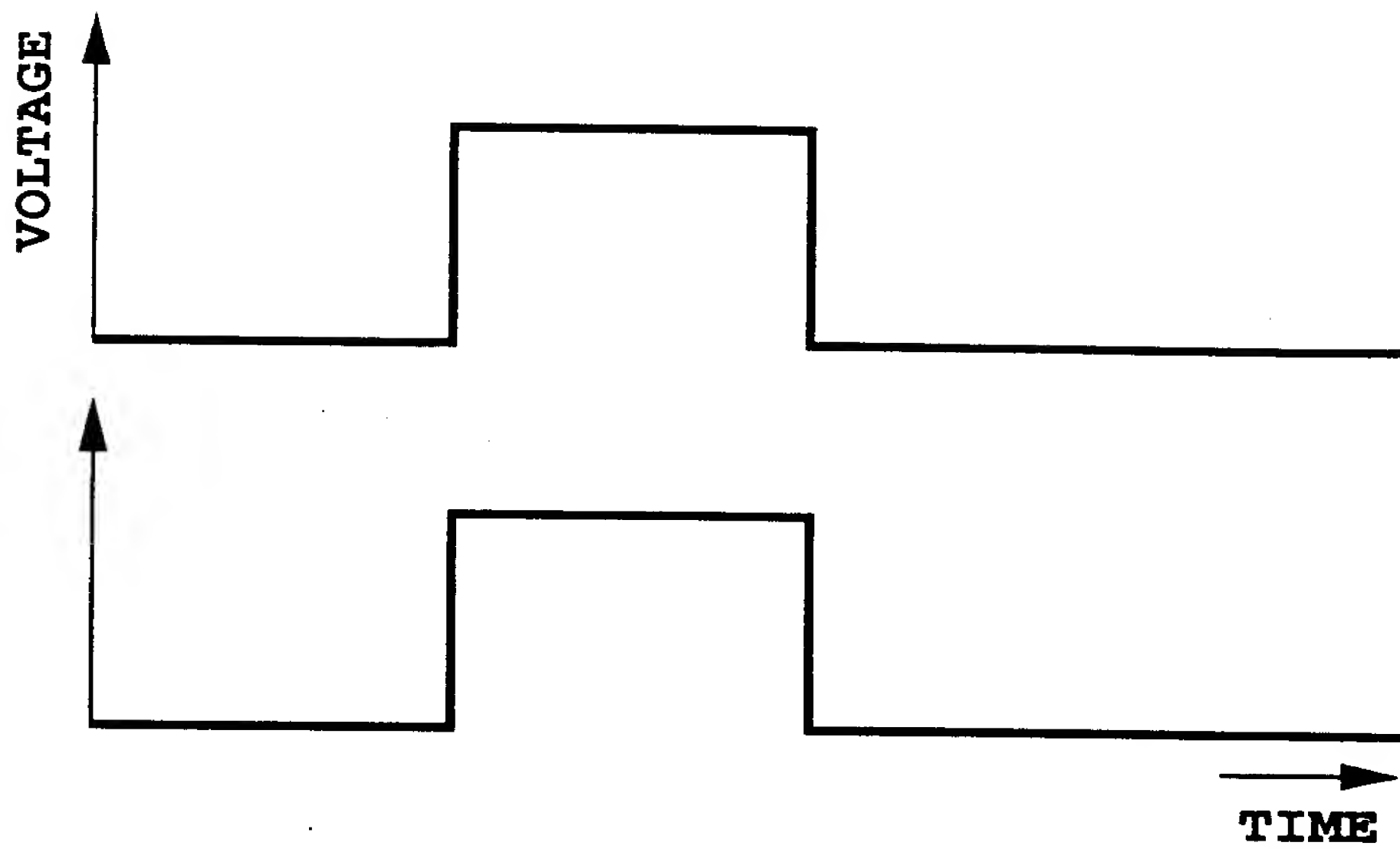
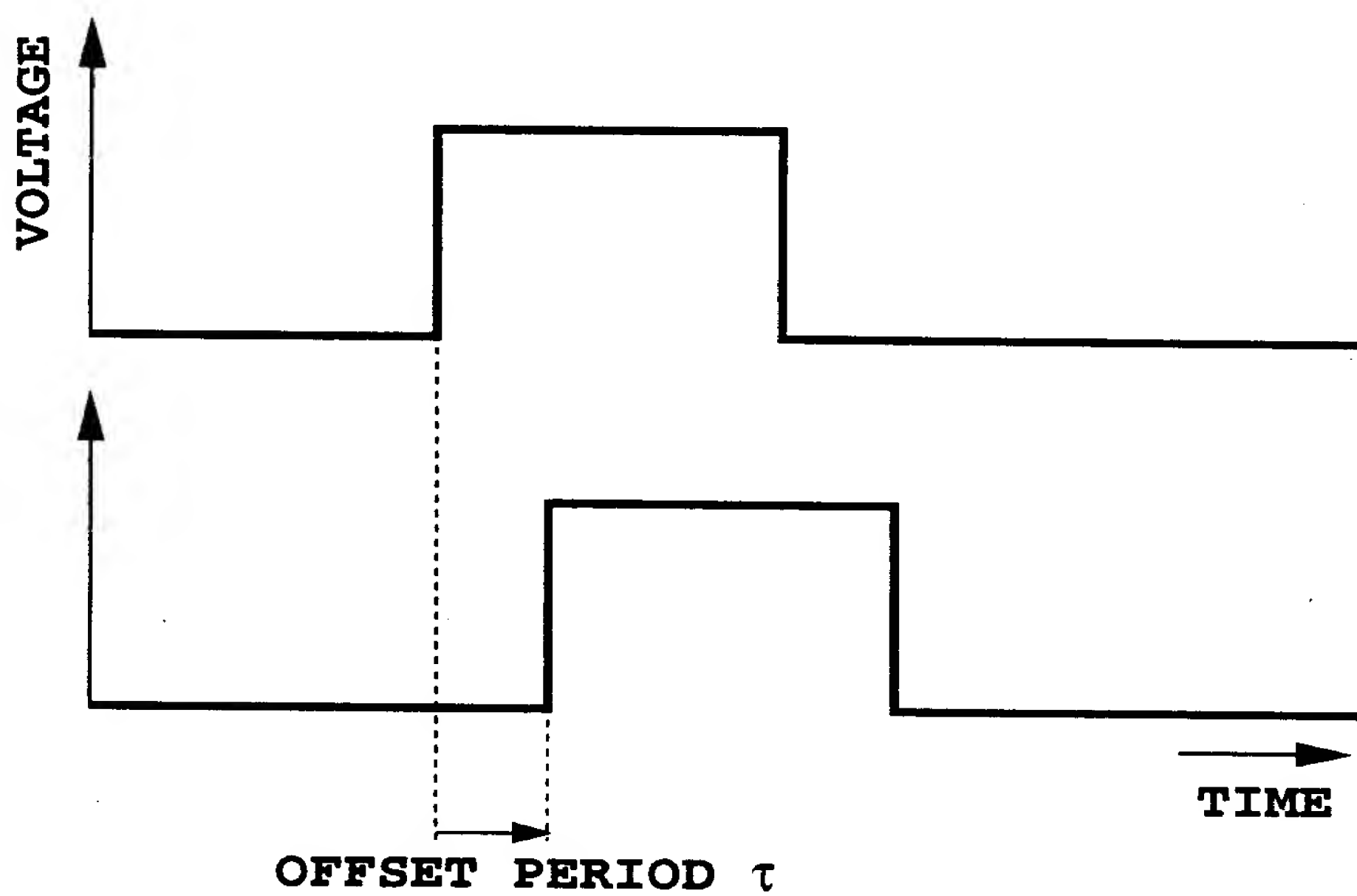


FIG.9

12/81

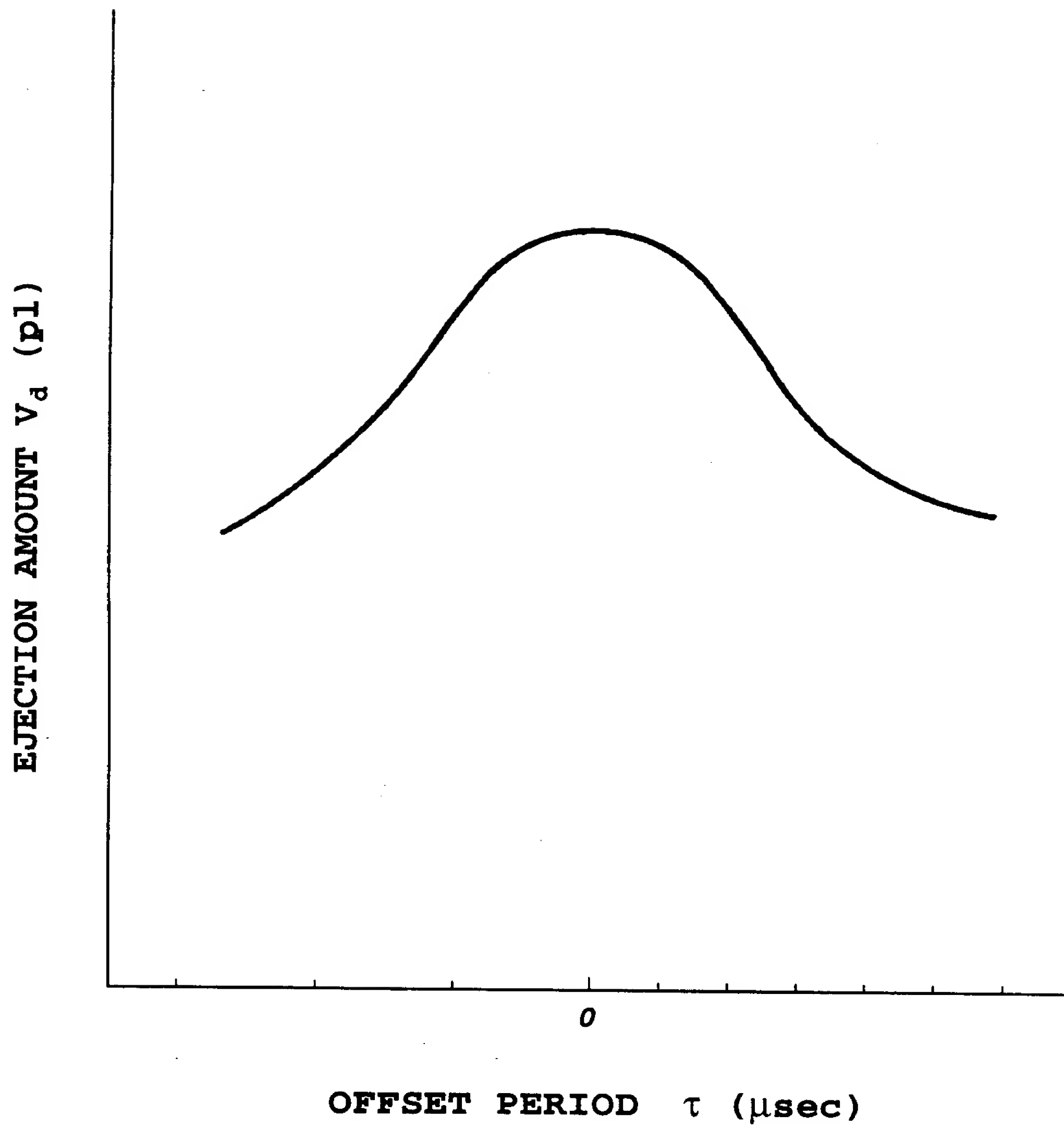


*FIG.10A*



*FIG.10B*

13/81



**FIG.11**

TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
HEAD TEMPERATURE $T_h$ ( $^{\circ}\text{C}$ )	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE ~ LESS THAN 47	47 OR MORE ~ LESS THAN 50	50 OR MORE ~ LESS THAN 53	53 OR MORE
OFFSET PERIOD $\tau$ ( $\mu\text{sec}$ )	0	0.8	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.4	4.0

FIG.12

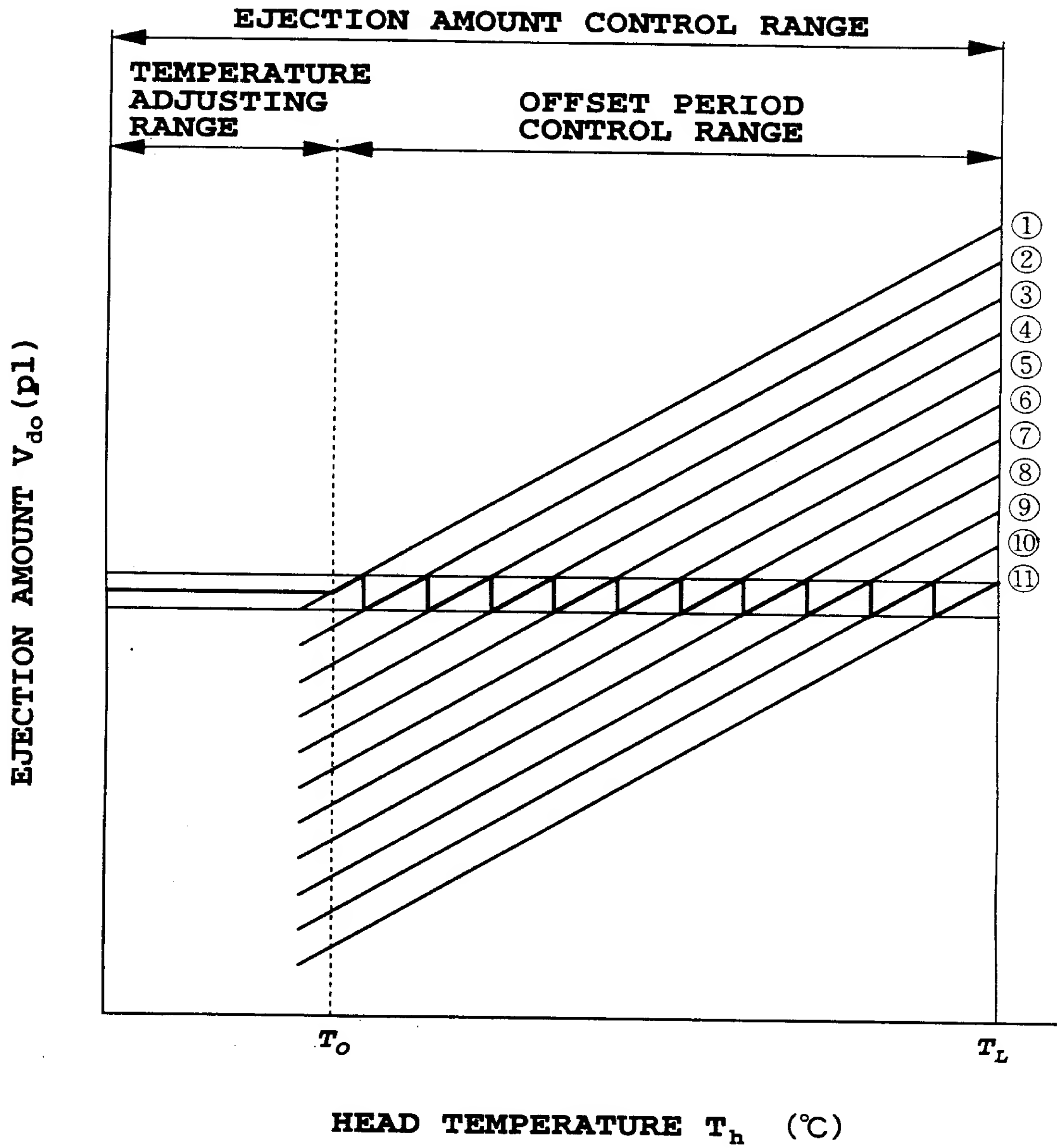


FIG.13

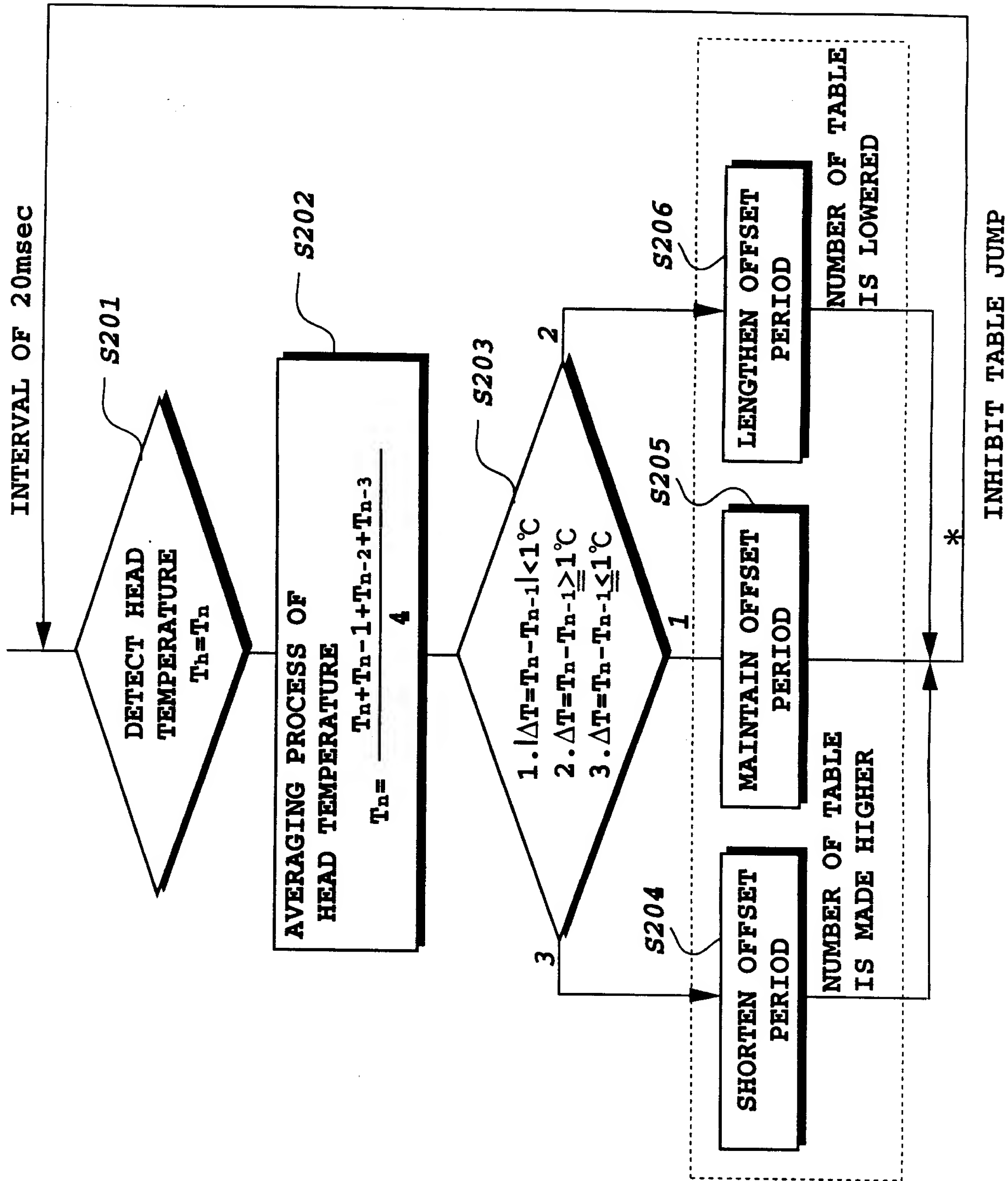


FIG. 14



TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
HEAD TEMPERATURE Th (°C)	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE ~ LESS THAN 47	47 OR MORE ~ LESS THAN 50	50 OR MORE ~ LESS THAN 53	53 OR MORE
OFFSET PERIOD $\tau(\mu\text{sec})$	0	-0.8	-1.2	-1.5	-1.8	-2.1	-2.4	-2.7	-3.0	-3.4	-4.0

FIG.15

TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧
HEAD TEMPERATURE Th (°C)	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE
OFFSET PERIOD $\tau(\mu\text{sec})$	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3

FIG.16

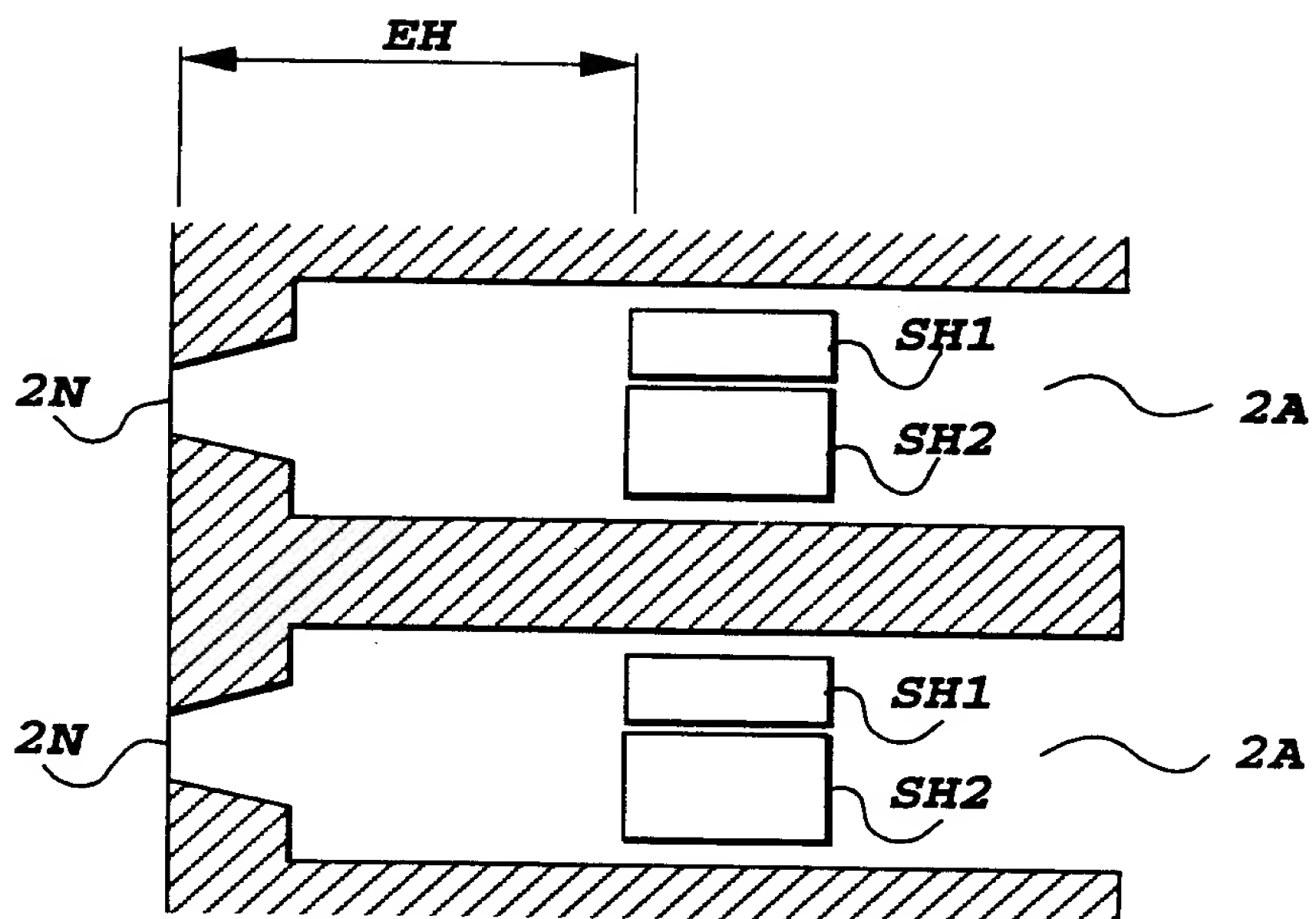


FIG.17

20/81

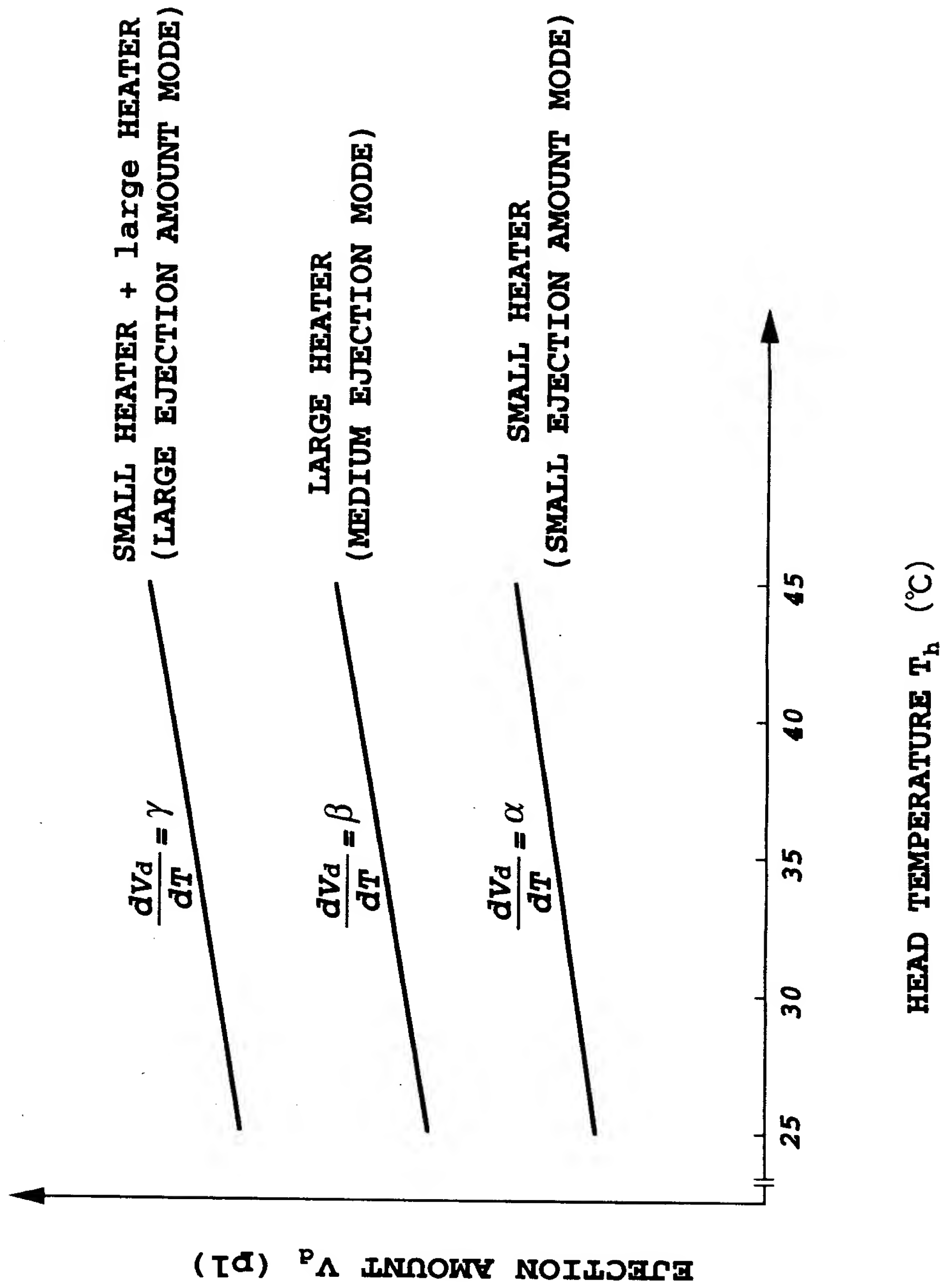


FIG.18

21/81

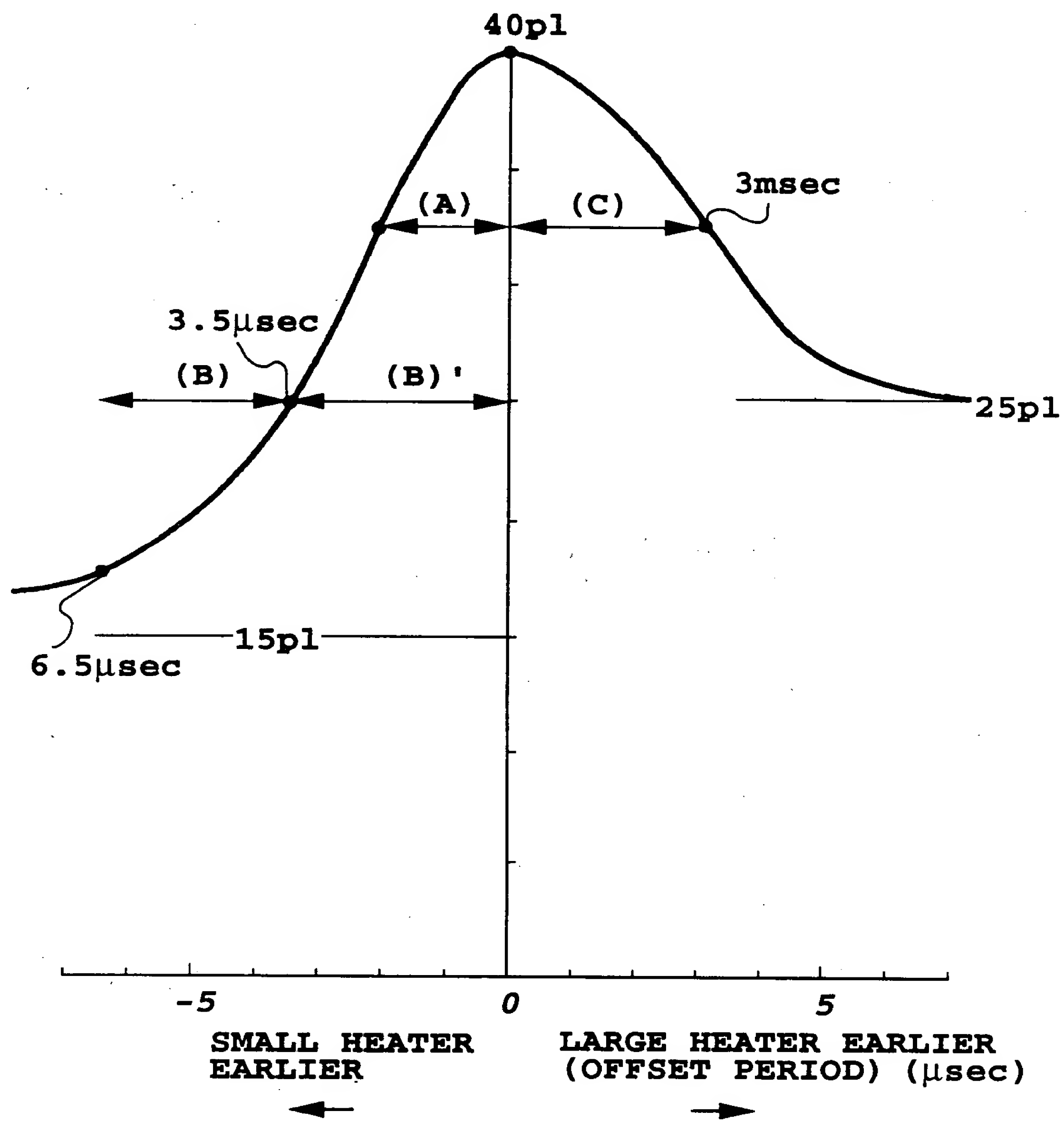


FIG.19

LARGE EJECTION AMOUNT MODE (40pl/dot)

TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
HEAD TEMPERATURE Th (°C)	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE ~ LESS THAN 47	47 OR MORE ~ LESS THAN 50	50 OR MORE
OFFSET PERIOD τ(μsec)	0	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0

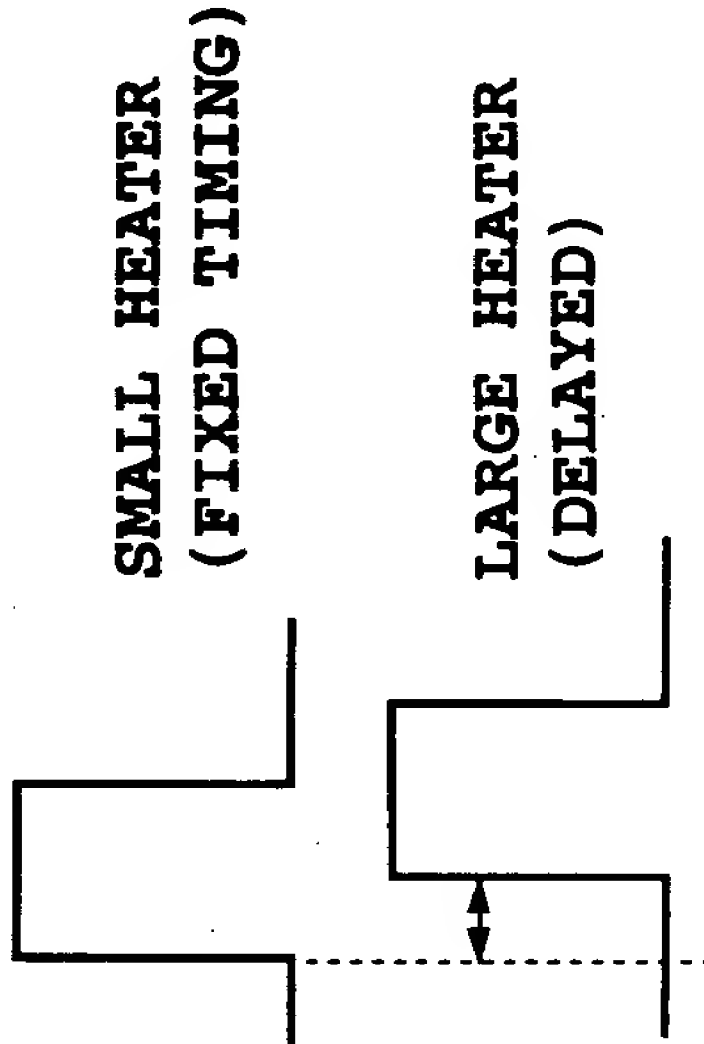


FIG.20A

MEDIUM EJECTION AMOUNT MODE (25pl/dot)

TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
HEAD TEMPERATURE T <sub>h</sub> (°C)	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE ~ LESS THAN 47	47 OR MORE ~ LESS THAN 50	50 OR MORE
OFFSET PERIOD τ(μsec)	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.7	6.1	6.5

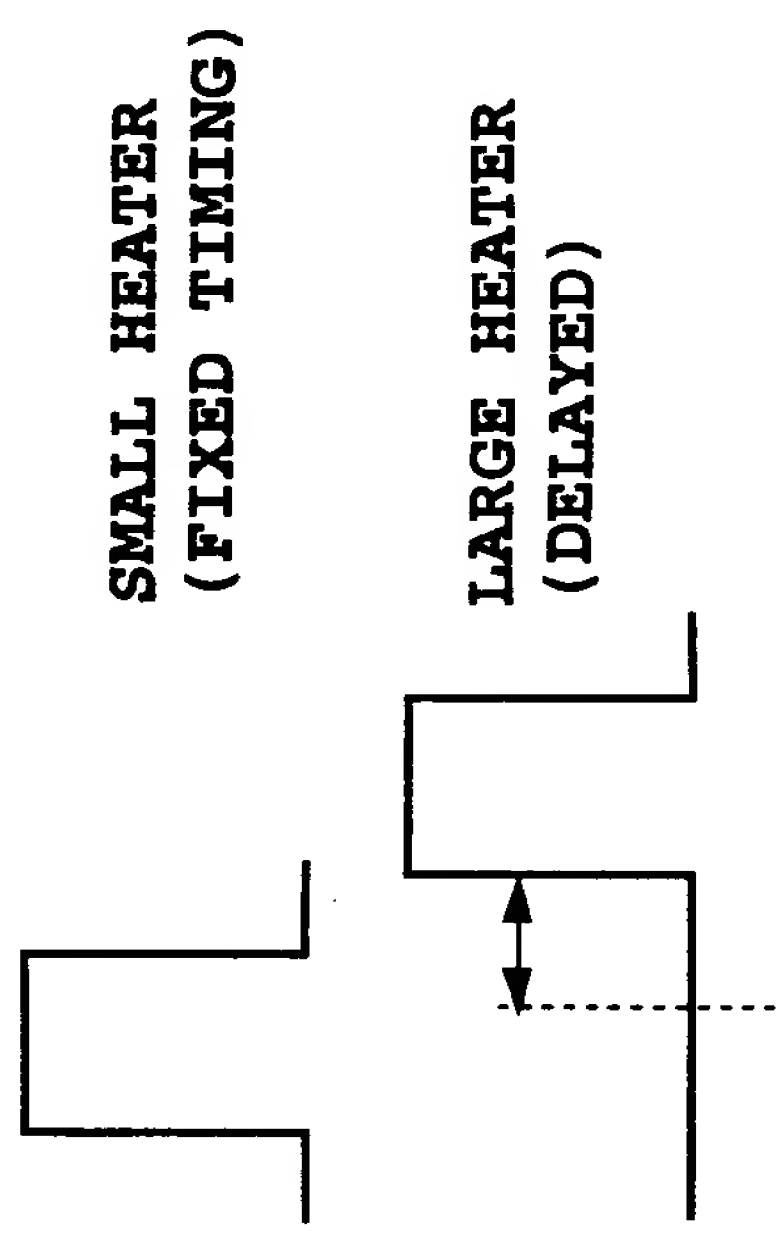


FIG. 20B

APPROVED BY [Signature] 12.0.1983

LARGE EJECTION AMOUNT MODE (40p1/dot)

TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
HEAD TEMPERATURE Th (°C)	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE ~ LESS THAN 47	47 OR MORE ~ LESS THAN 50	50 OR MORE
OFFSET PERIOD $\tau(\mu\text{sec})$	0	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0

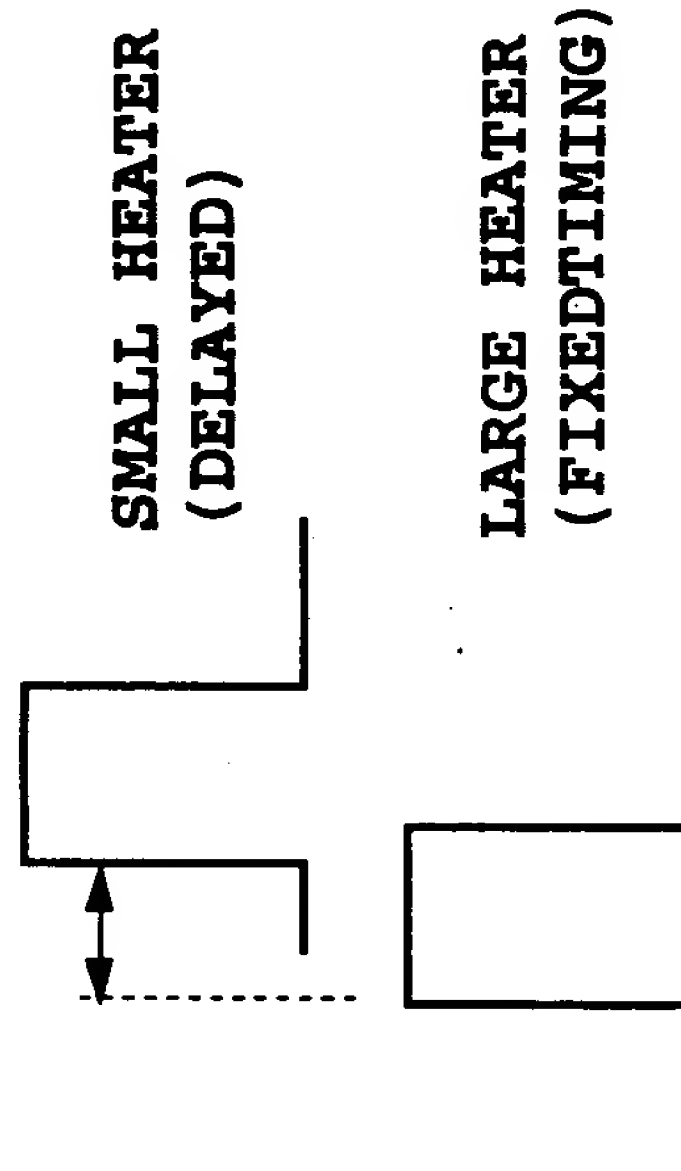


FIG.21A



MEDIUM EJECTION AMOUNT MODE (25pl/dot)

TABLE NO.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
HEAD TEMPERATURE $T_h$ (°C)	LESS THAN 26	26 OR MORE ~ LESS THAN 29	29 OR MORE ~ LESS THAN 32	32 OR MORE ~ LESS THAN 35	35 OR MORE ~ LESS THAN 38	38 OR MORE ~ LESS THAN 41	41 OR MORE ~ LESS THAN 44	44 OR MORE ~ LESS THAN 47	47 OR MORE ~ LESS THAN 50	50 OR MORE
OFFSET PERIOD $\tau$ (μsec)	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.7	6.1	6.5

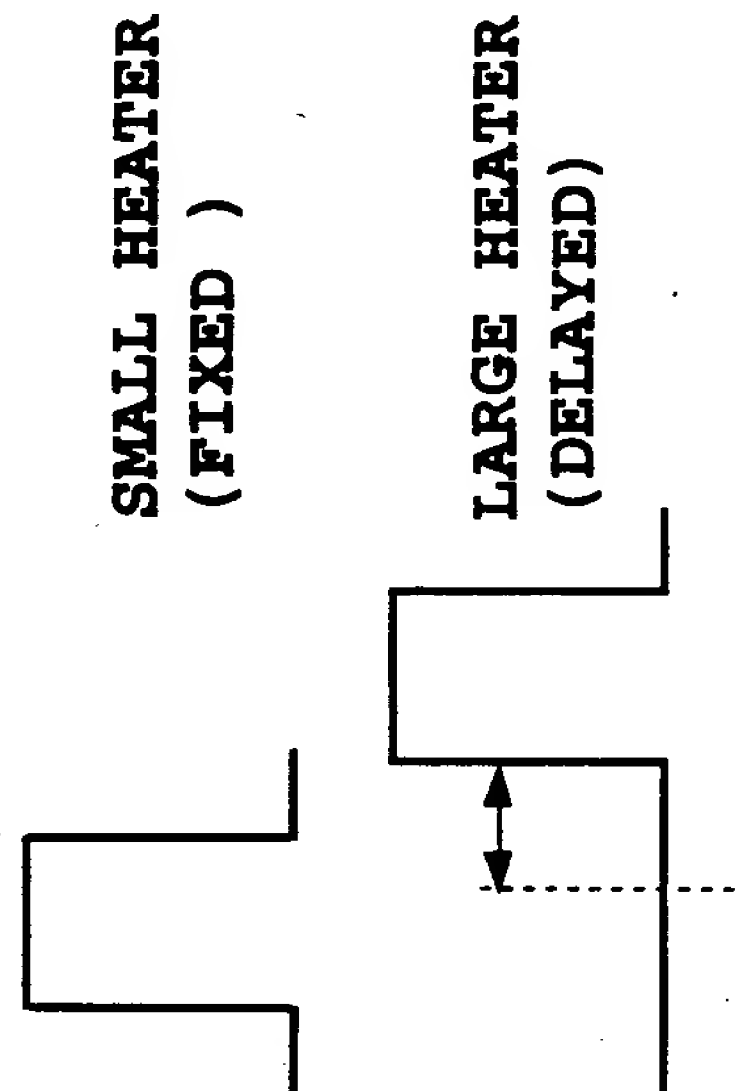


FIG.21B

SH1: SMALL HEATER  
SH2: LARGE HEATER

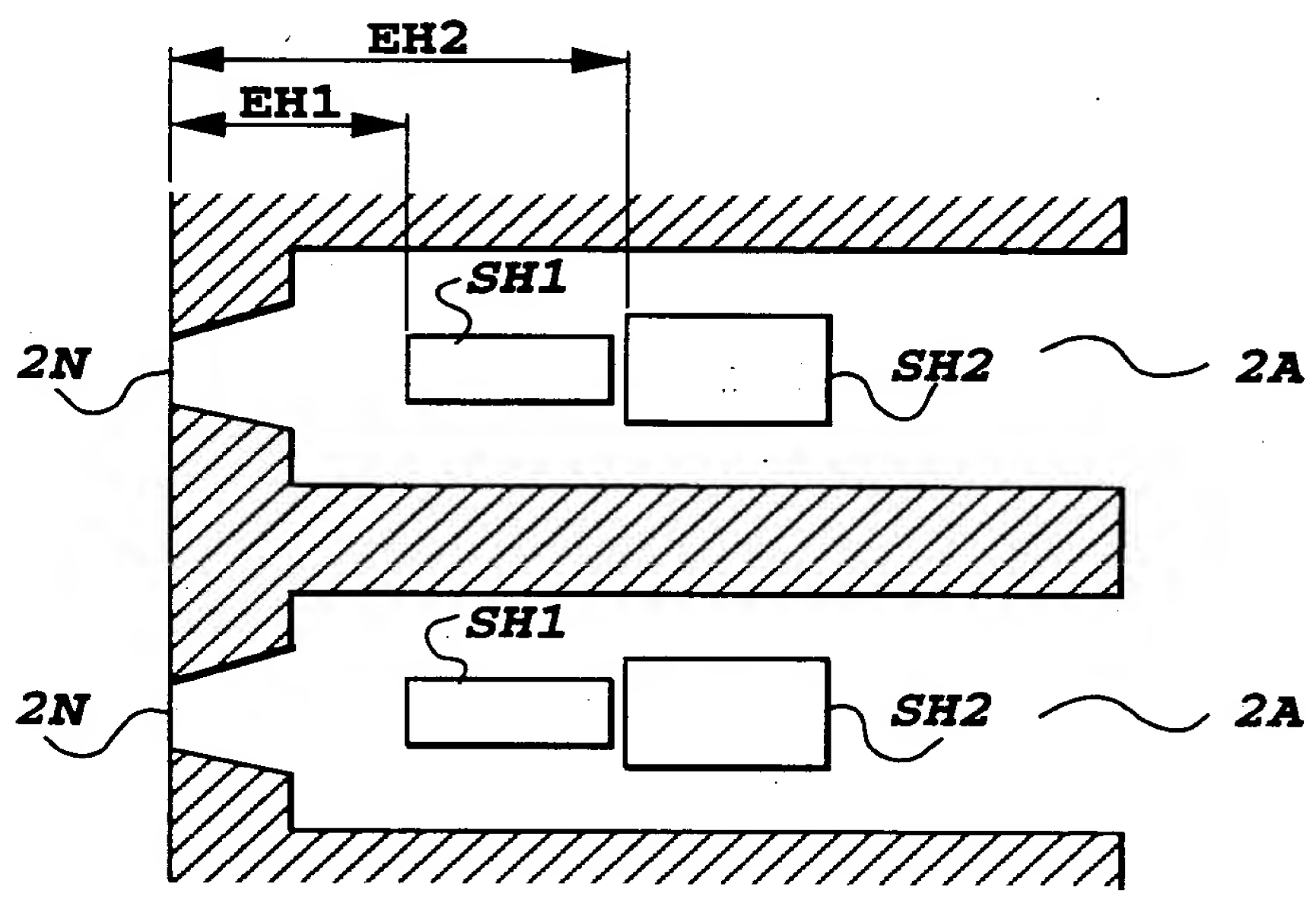


FIG.22

27/81

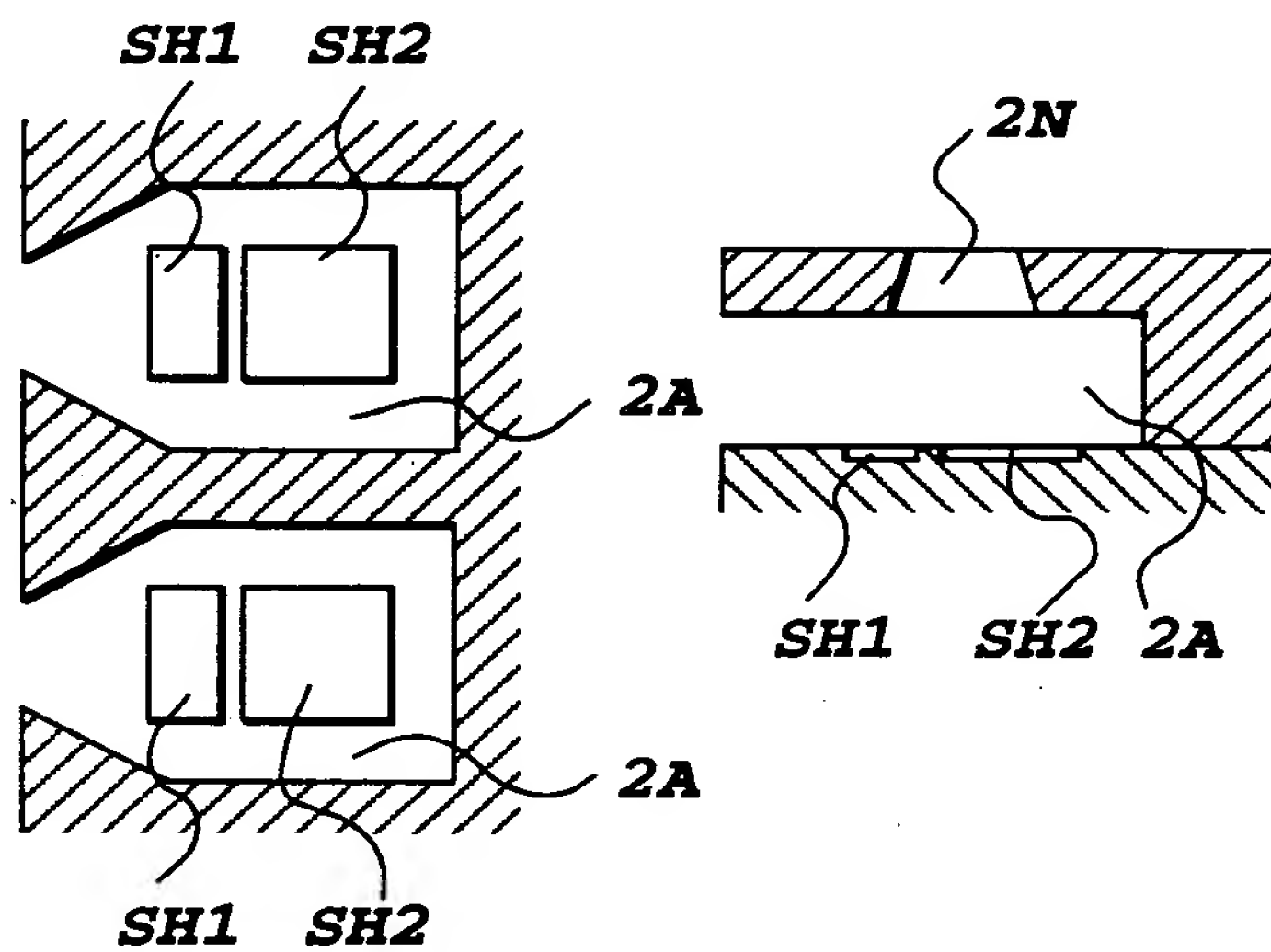
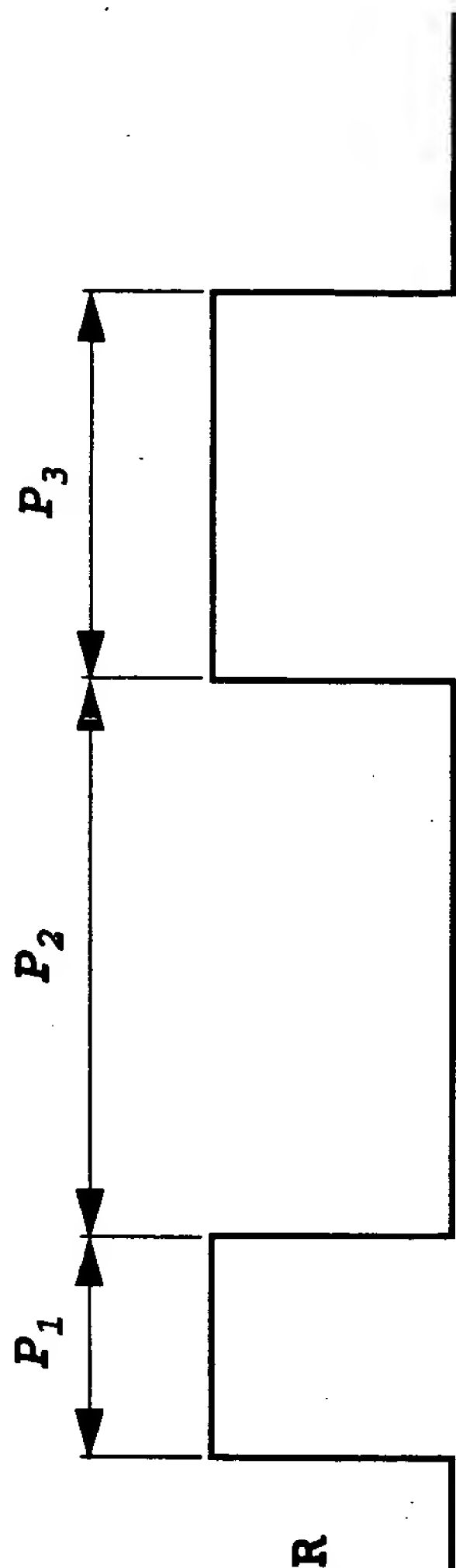
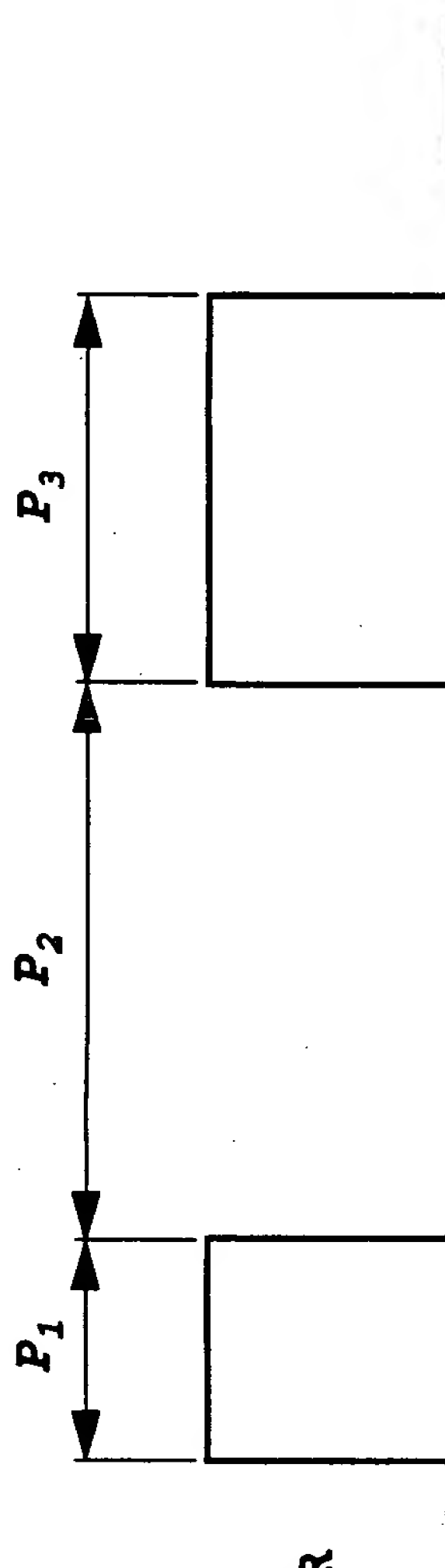


FIG. 23



PULSE FOR SMALL HEATER

FIG. 24A



PULSE FOR LARGE HEATER

FIG. 24B

29/81

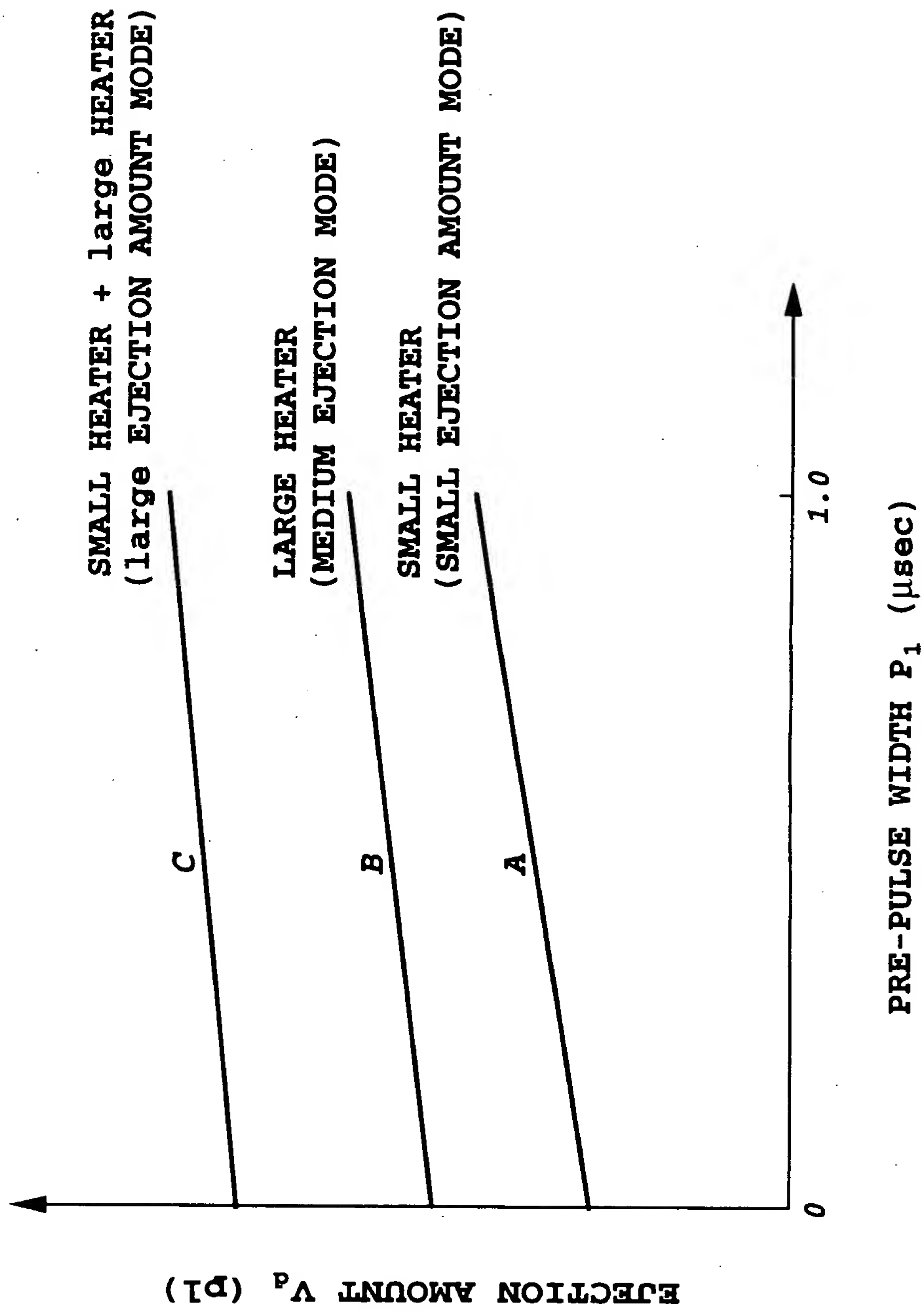


FIG.25

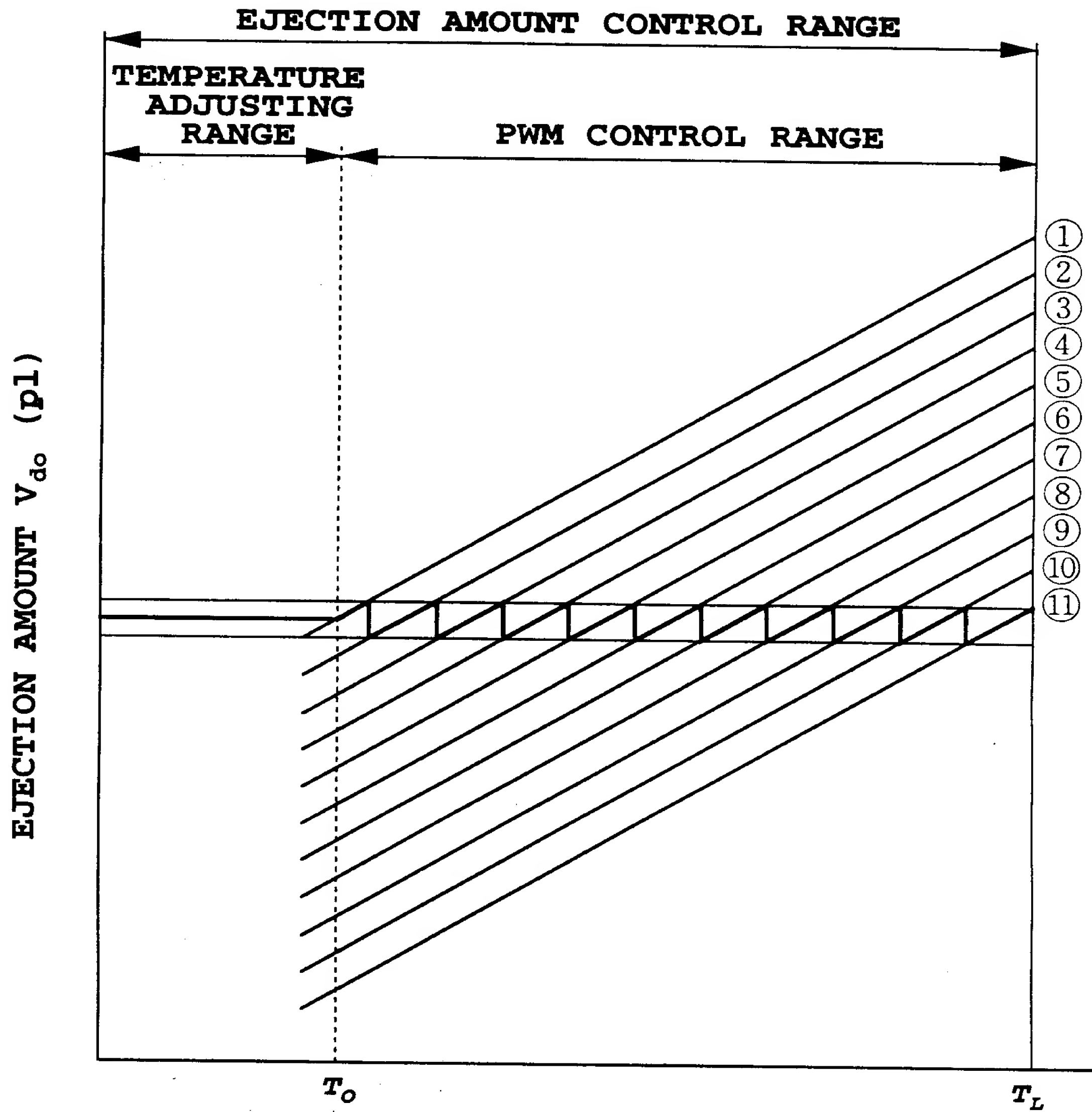


FIG.26

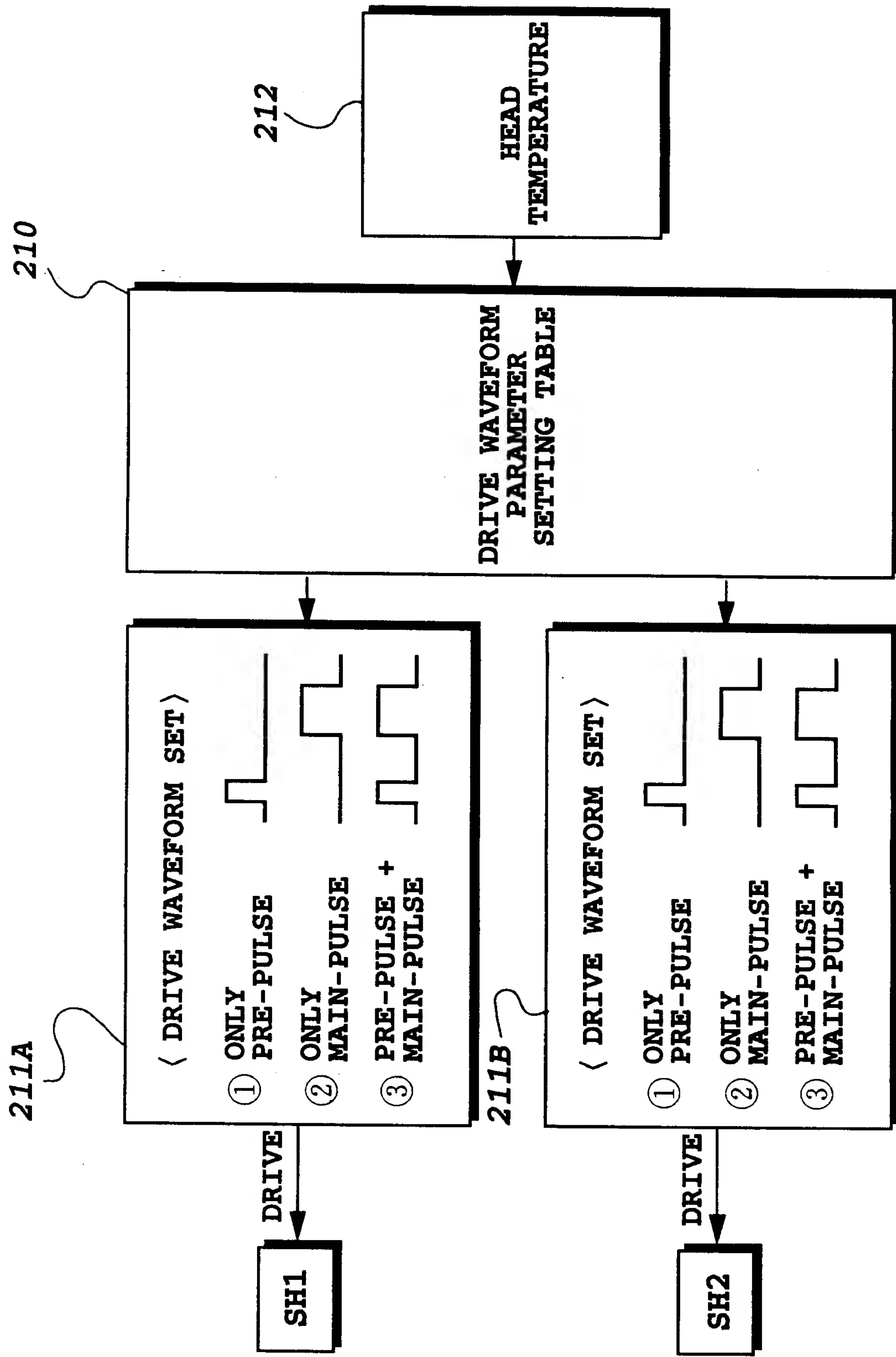


FIG. 27

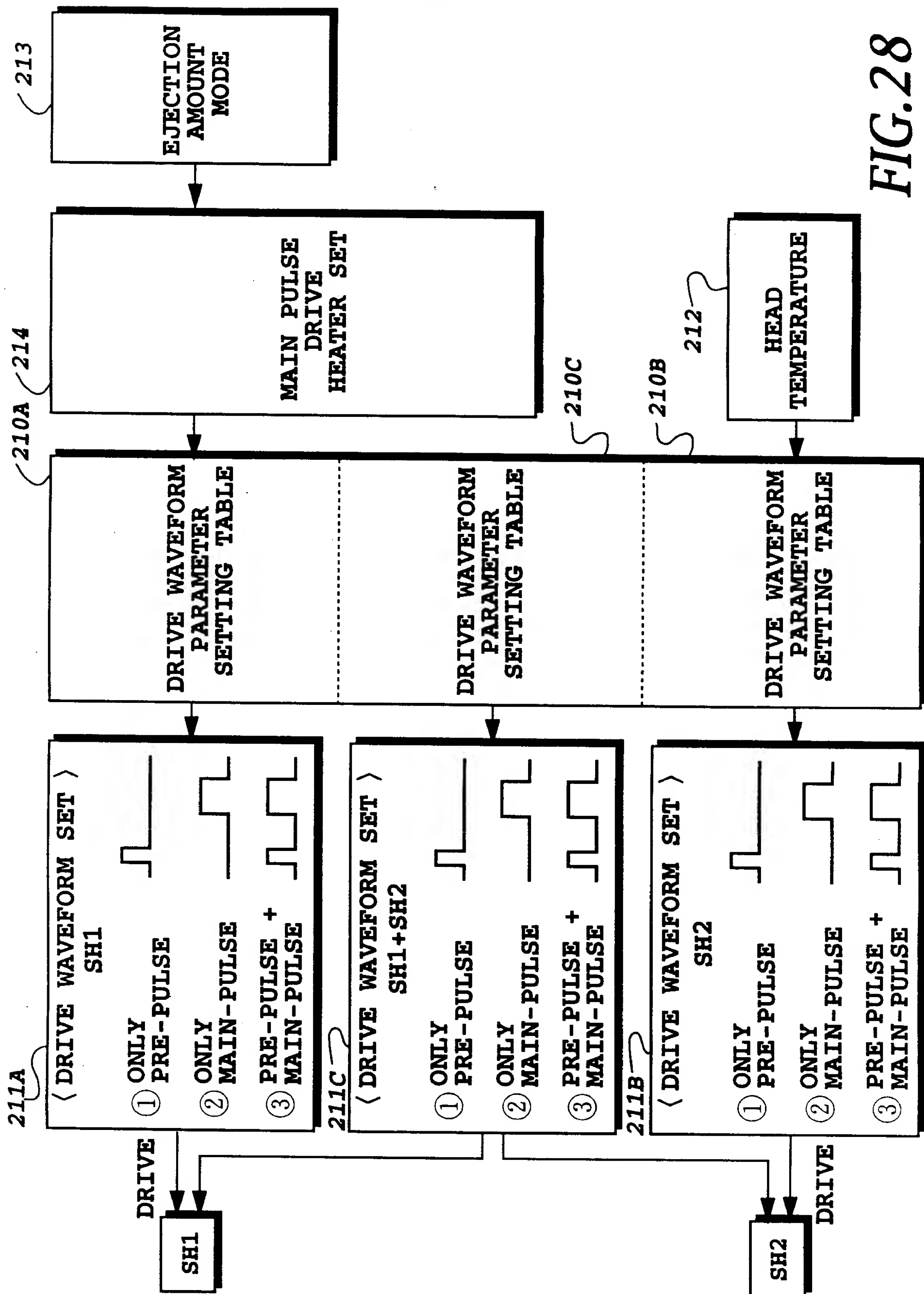


FIG. 28



213

EJECTION AMOUNT MODE	MAIN HEAT PULSE DRIVEN HEATER	PRE-HEAD PULSE DRIVEN HEATER
SMALL	SH1	SH1
		SH2
		SH1+SH2
MEDIUM	SH2	SH1
		SH2
		SH1+SH2
LARGE	SH1+SH2	SH1
		SH2
		SH1+SH2

214

FIG. 29

P<sub>1</sub> TABLE FOR SMALL EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER PRE-PULSE (μsec)	1.0	0.95	0.90	0.85	0.80	0.75	0.70	0.65	0.60	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10
LARGE HEATER PRE-PULSE (μsec)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(15pl)

FIG.30A

(25p1)

[illegible]

**FIG. 30B**



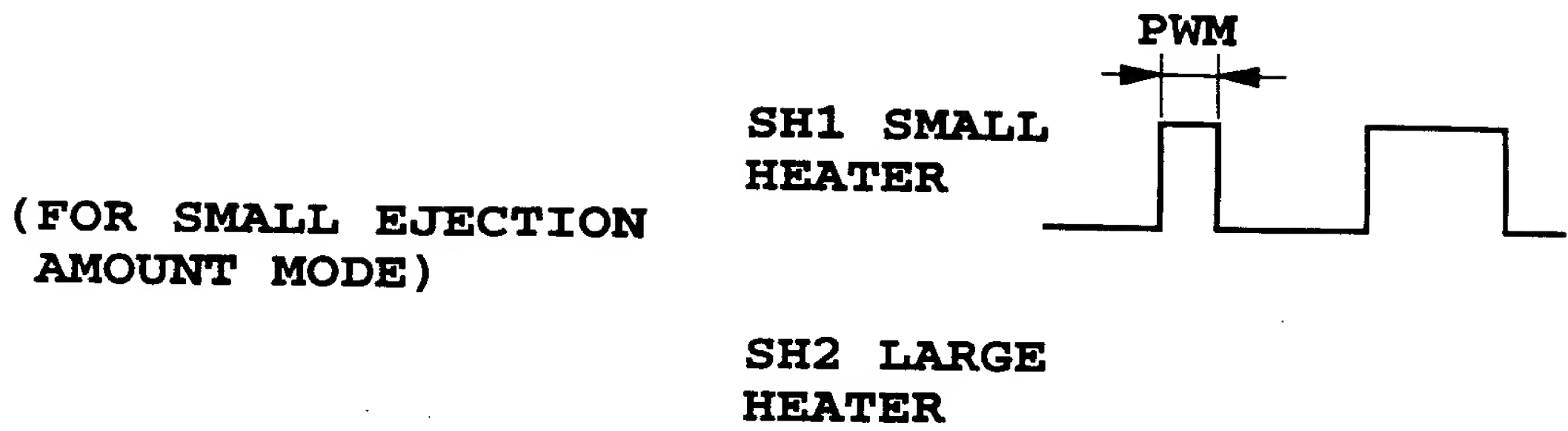


FIG.31A

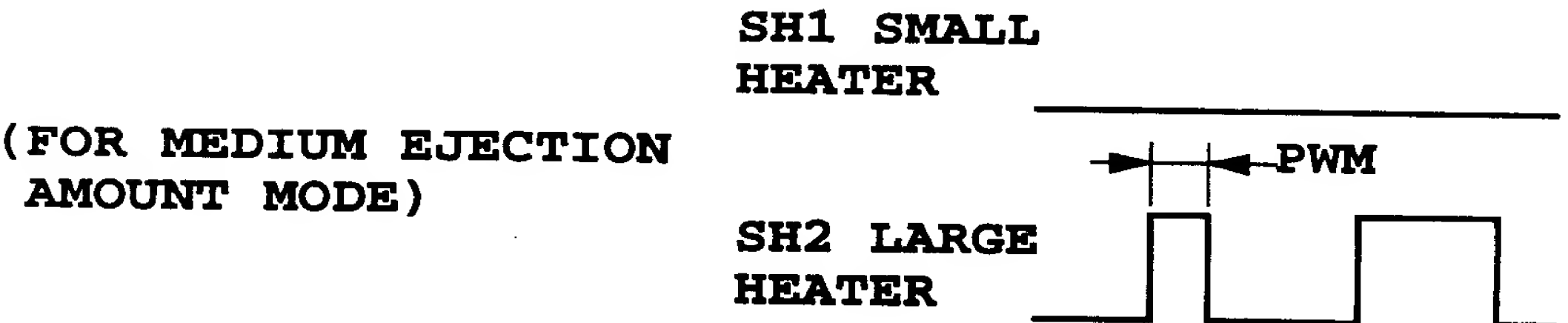


FIG.31B

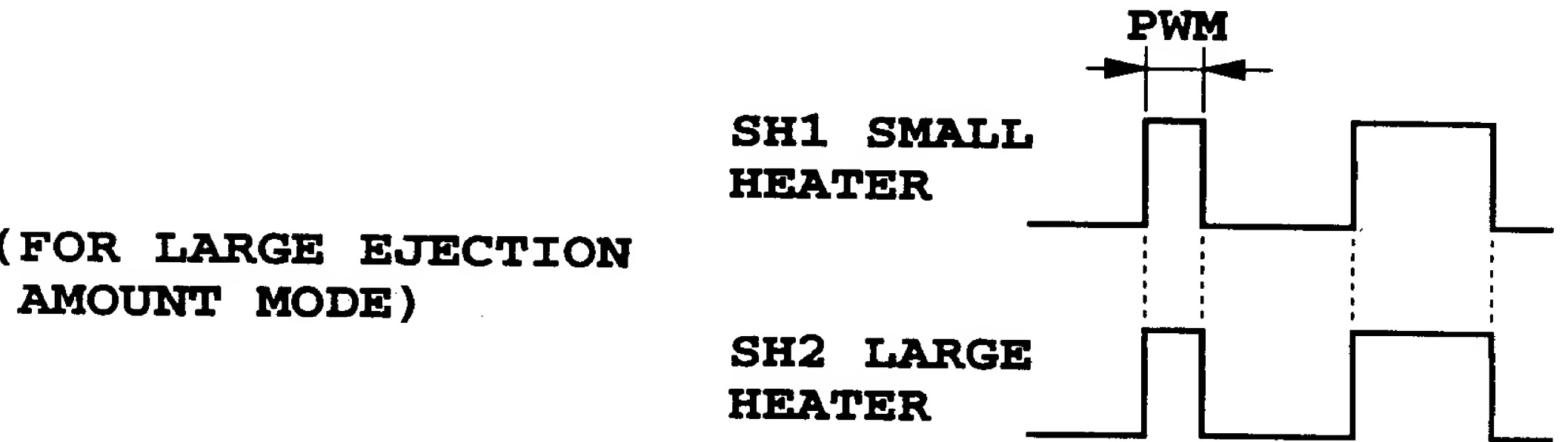


FIG.31C

P<sub>1</sub> TABLE FOR SMALL EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER PRE-PULSE (μsec)	1.0	0.95	0.90	0.85	0.80	0.75	0.70	0.65	0.60	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.10
LARGE HEATER PRE-PULSE (μsec)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(15pl)

FIG.32A



40/81

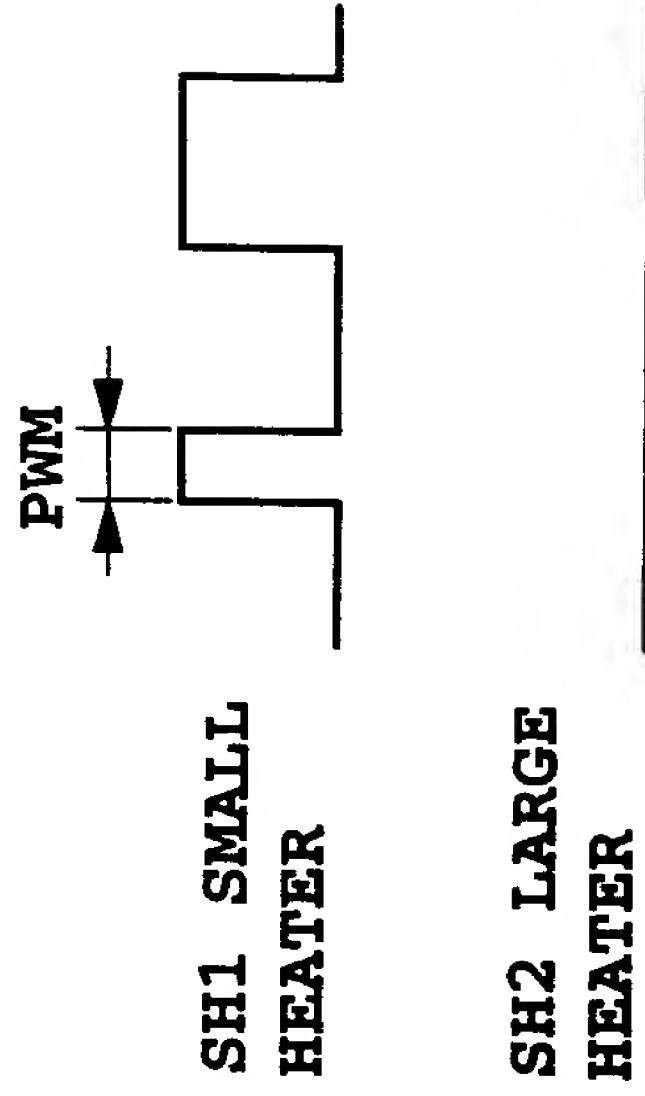
P<sub>1</sub> TABLE FOR LARGE EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER PRE-PULSE (μsec)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2
LARGE HEATER PRE-PULSE (μsec)	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0	0	0	0	0	0	0	0	0

(40p1)

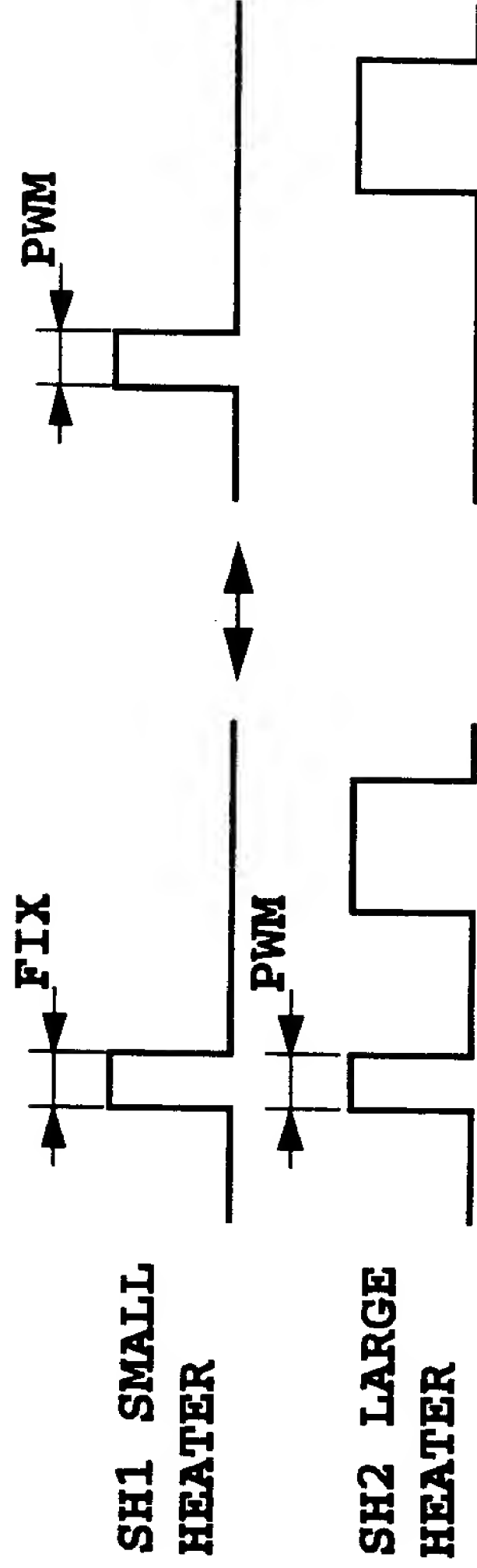
FIG.32C





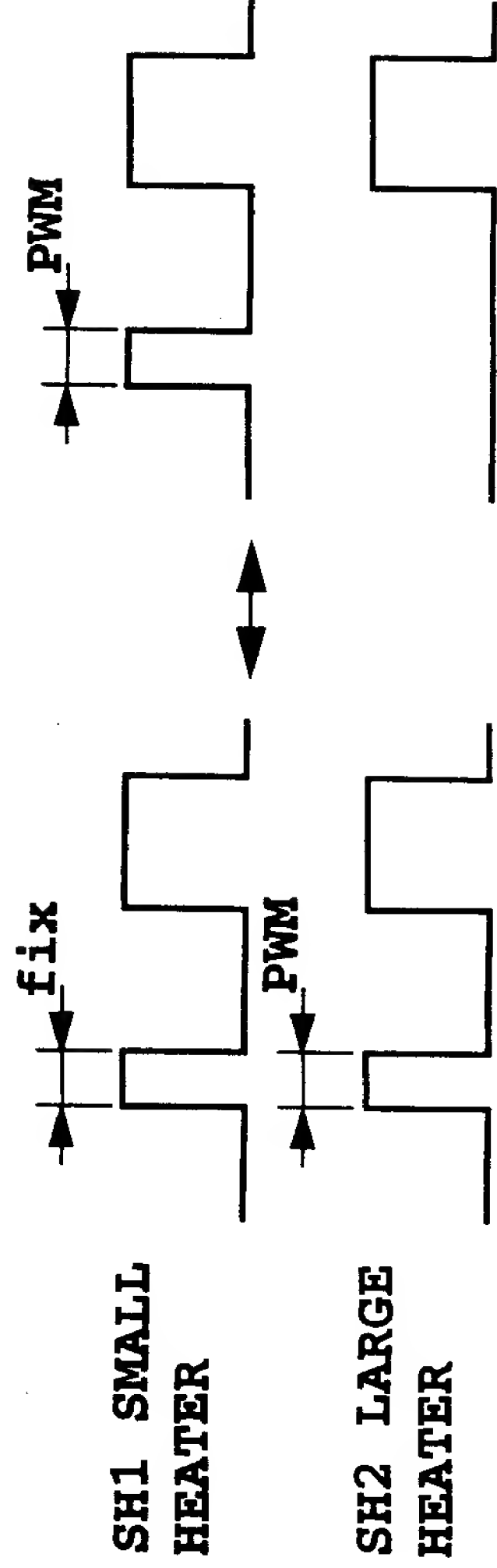
(FOR SMALL EJECTION  
AMOUNT MODE)

FIG. 33A



(FOR MEDIUM EJECTION  
AMOUNT MODE)

FIG. 33B



(FOR LARGE EJECTION  
AMOUNT MODE)

FIG. 33C

42/81

P<sub>1</sub> TABLE FOR SMALL EJECTION AMOUNT MODE  
(FOR LOW TEMPERATURE)

HEAD T TEMPERATURE (°C)	~16	~18	~20	~22	~24	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	50~
SMALL HEATER PRE-PULSE (μsec)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LARGE HEATER PRE-PULSE (μsec)	2.0	1.93	1.86	1.8	1.73	1.66	1.6	1.53	1.46	1.4	1.33	1.26	1.2	1.13	1.06	1.0	0.93	0.87	0.80

(15pl)

FIG.34A



**P<sub>1</sub> TABLE FOR LARGE EJECTION AMOUNT MODE  
(FOR LOW TEMPERATURE)**

HEAD T TEMPERATURE (°C)	~16	~18	~20	~22	~24	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~50
SMALL HEATER PRE-PULSE (μsec)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LARGE HEATER PRE-PULSE (μsec)	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2

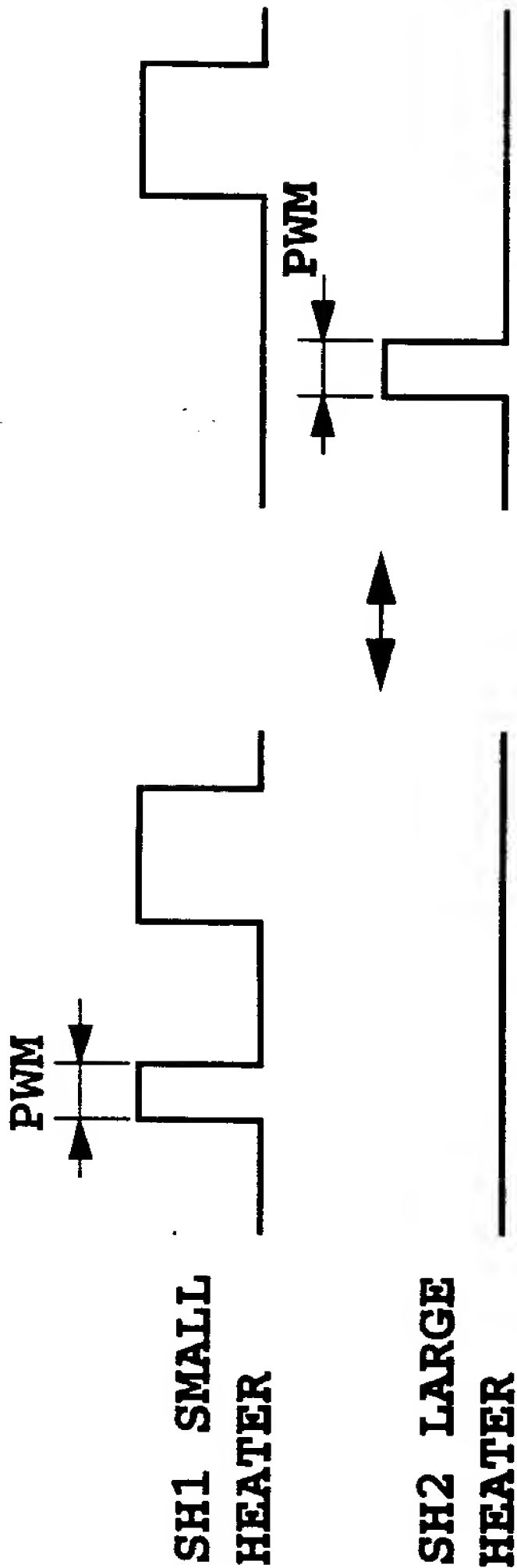
**FIG. 35A**

(40p1)

[illegible]

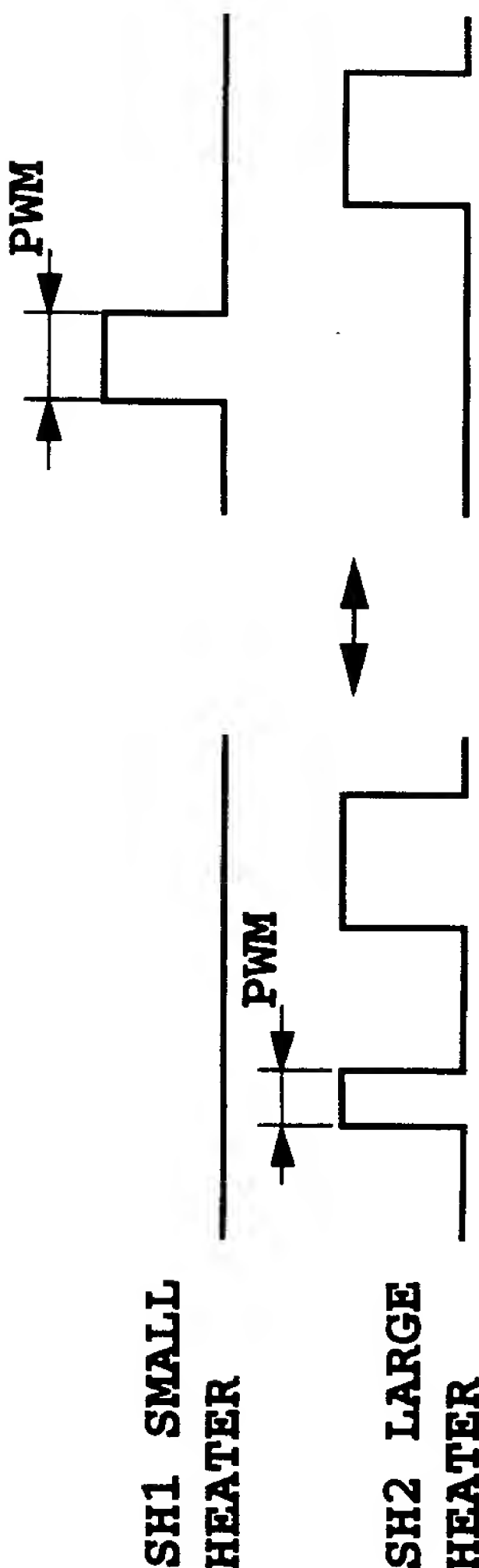
**FIG. 35B**

(FOR HIGH TEMPERATURE) (FOR LOW TEMPERATURE)



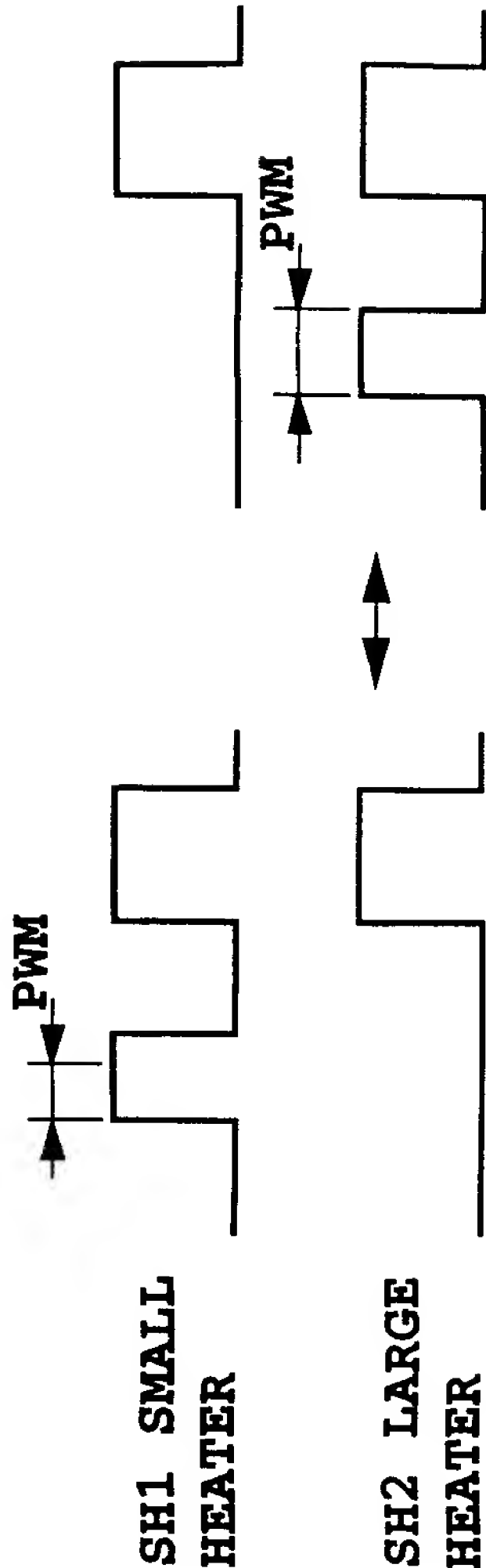
(FOR SMALL EJECTION AMOUNT MODE)

FIG. 36A



(FOR MEDIUM EJECTION AMOUNT MODE)

FIG. 36B



(FOR LARGE EJECTION AMOUNT MODE)

FIG. 36C

OFF TIME P<sub>2</sub> TABLE FOR SMALL EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER OFF TIME (μsec)	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2
LARGE HEATER OFF TIME (μsec)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(15p1)

FIG.37A

OFF TIME P<sub>2</sub> TABLE FOR MEDIUM EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER OFF TIME (μsec)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LARGE HEATER OFF TIME (μsec)	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.2	2.0	1.8	1.6	1.4	1.2	1.0	0.8	0.6	0.4

(25p1)

FIG.37B



49/81

OFF TIME P<sub>2</sub> TABLE FOR LARGE EJECTION AMOUNT MODE

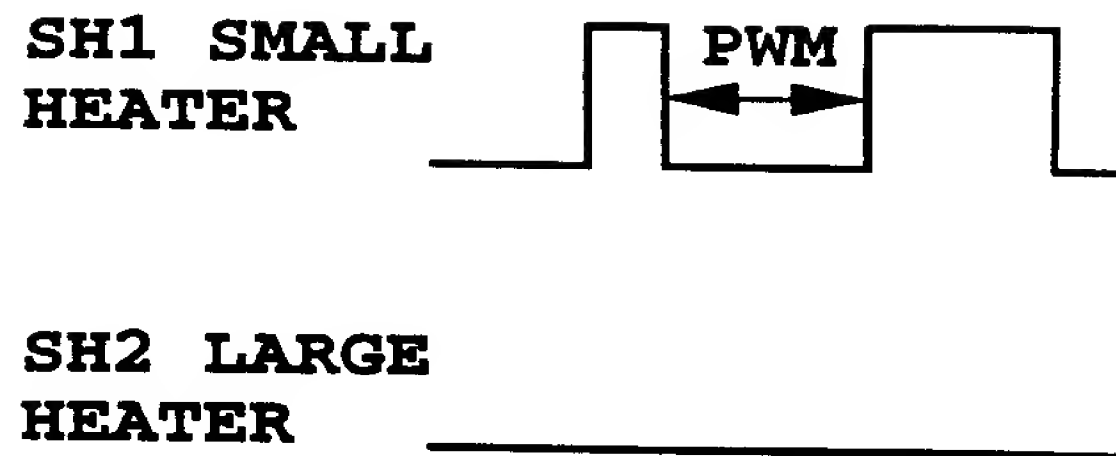
HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER OFF TIME (μsec)	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2
LARGE HEATER OFF TIME (μsec)	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2

(40p1)

FIG.37C

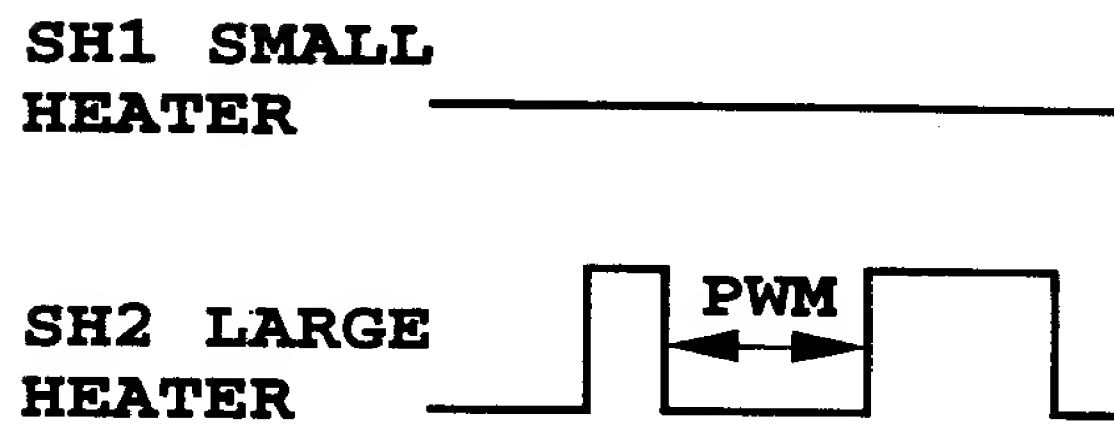
(FOR SMALL EJECTION  
AMOUNT MODE)

**FIG.38A**



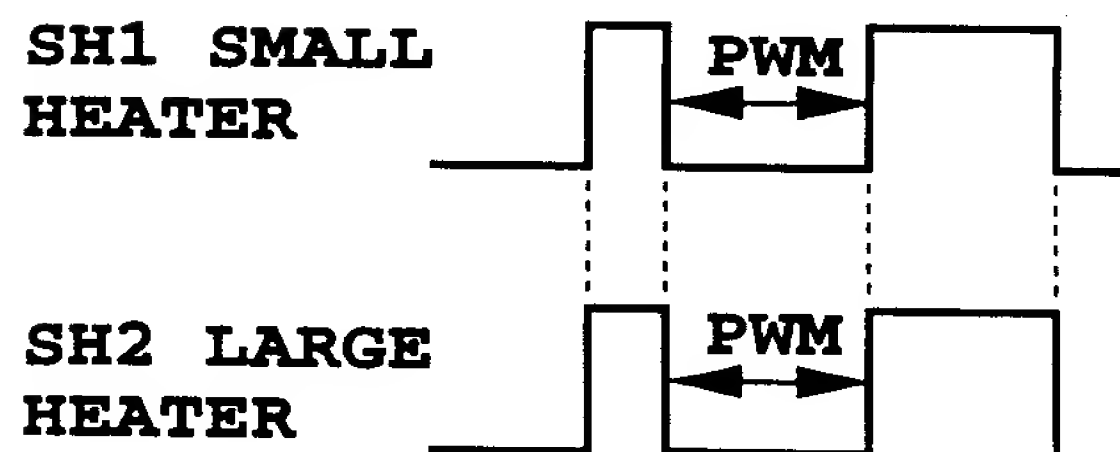
(FOR MEDIUM EJECTION  
AMOUNT MODE)

**FIG.38B**



(FOR LARGE EJECTION  
AMOUNT MODE)

**FIG.38C**



OFF TIME P<sub>2</sub> TABLE FOR SMALL EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	~60
SMALL HEATER OFF TIME (μsec)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LARGE HEATER OFF TIME (μsec)	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.2	2.0	1.8	1.6	1.4	1.2	1.0	0.8	0.6	0.4

(15pl)

FIG.39A

OFF TIME P<sub>2</sub> TABLE FOR MEDIUM EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER OFF TIME (μsec)	4.0	3.6	3.2	2.8	2.4	2.0	1.6	1.2	0.8	0.4	0								
LARGE HEATER OFF TIME (μsec)	-	-	-	-	-	-	-	-	-	-	-								

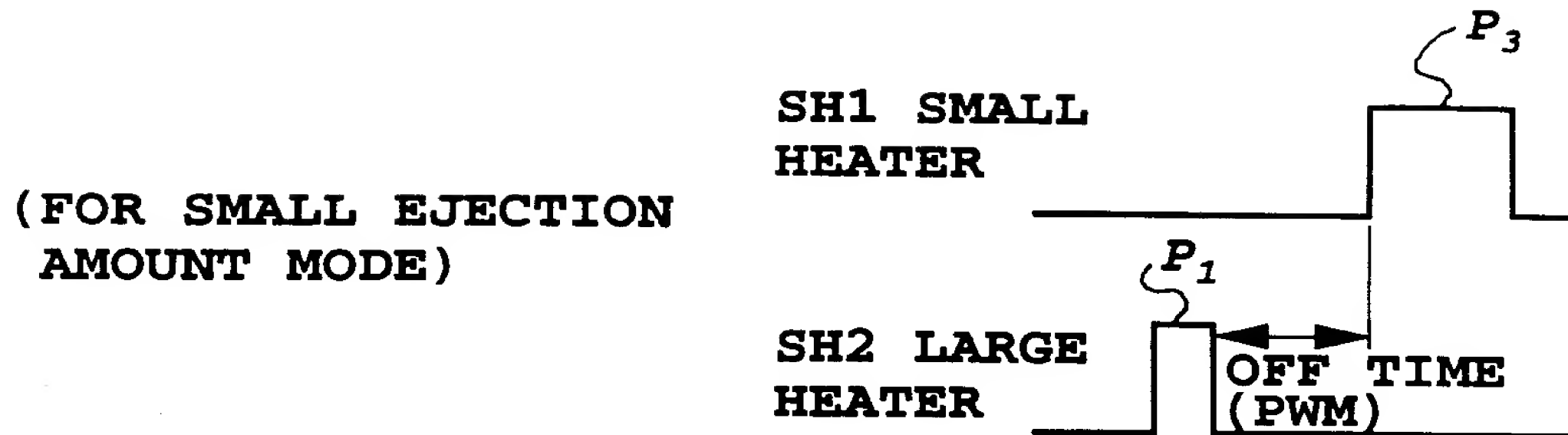
(25p1)

FIG.39B

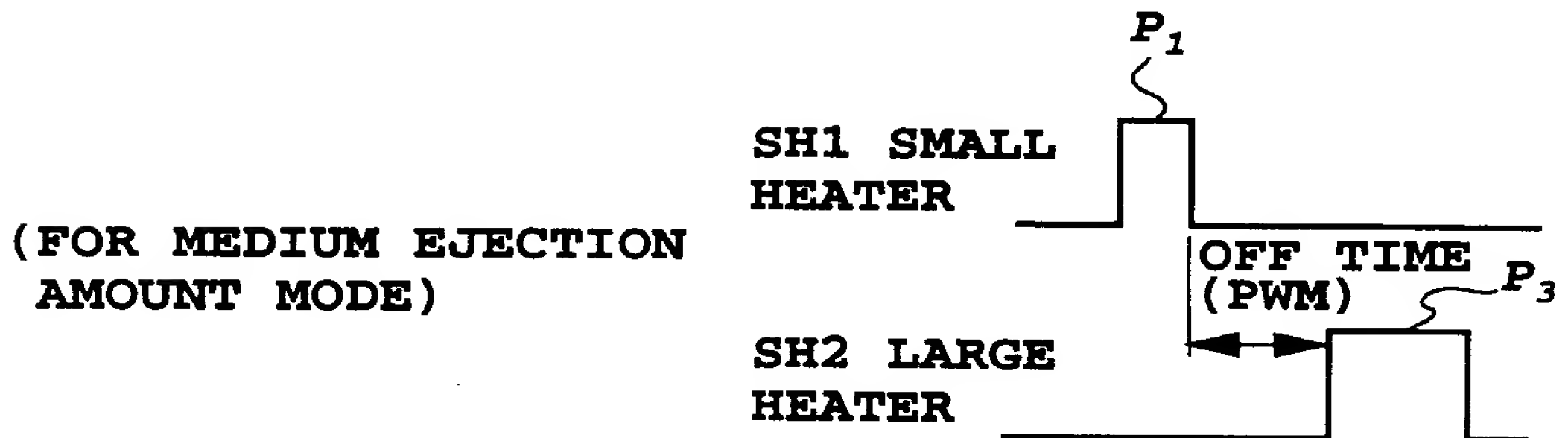
OFF TIME P<sub>2</sub> TABLE FOR LARGE EJECTION AMOUNT MODE

HEAD T TEMPERATURE (°C)	~26	~28	~30	~32	~34	~36	~38	~40	~42	~44	~46	~48	~50	~52	~54	~56	~58	~60	60~
SMALL HEATER OFF TIME (μsec)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
LARGE HEATER OFF TIME (μsec)	4.0	3.7	3.5	3.4	3.3	3.25	3.2	3.15	3.1	3.05	3.0	2.95	2.9	2.85	2.8	2.75	2.7	2.65	2.6

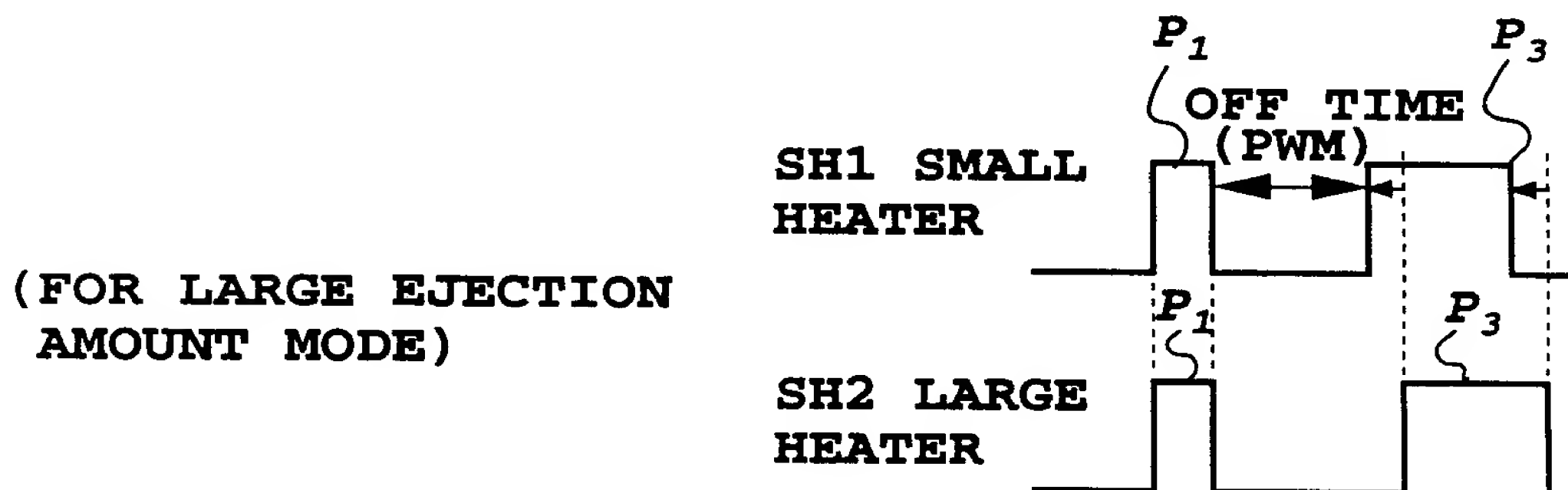
FIG.39C



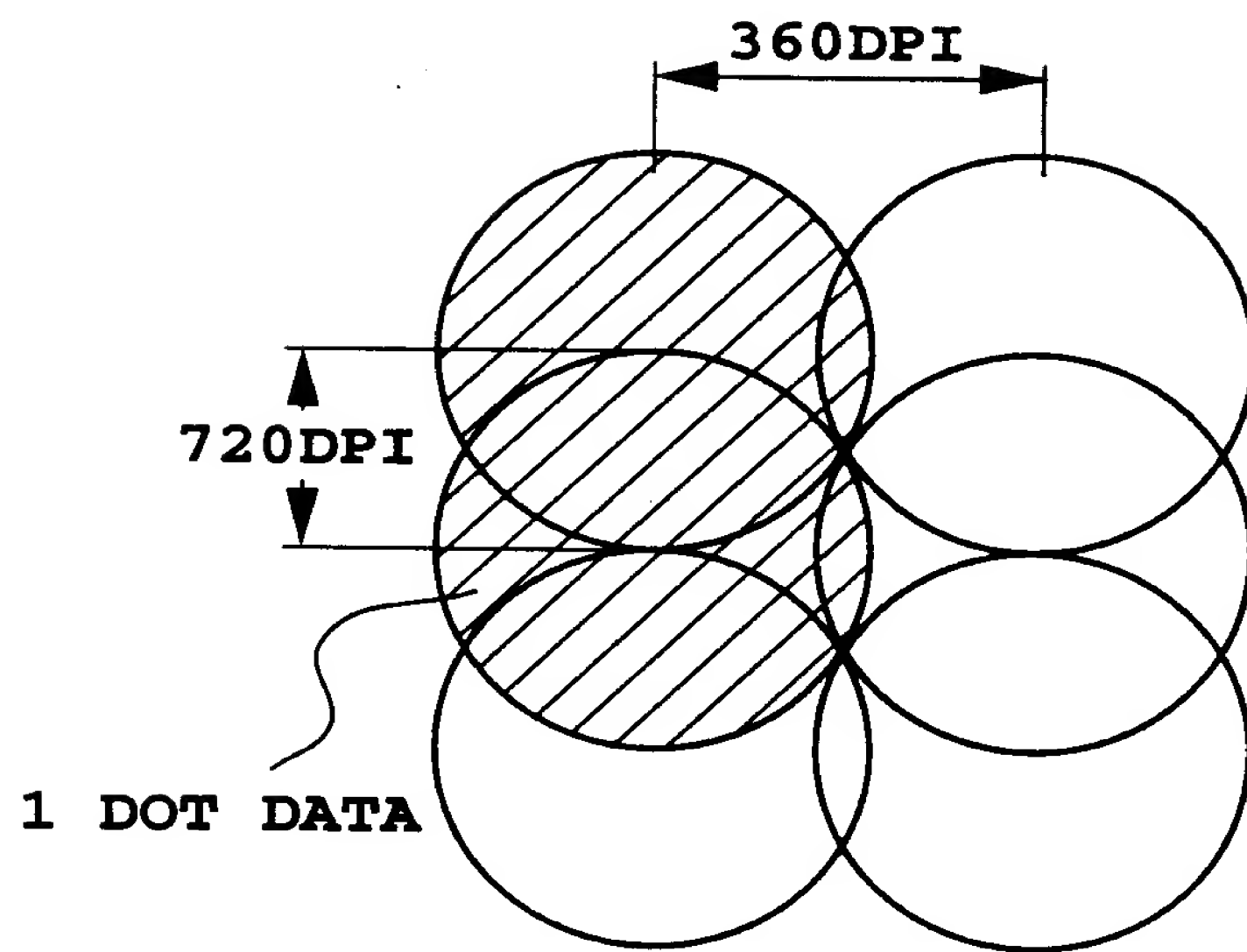
**FIG.40A**



**FIG.40B**



**FIG.40C**



**FIG.41**

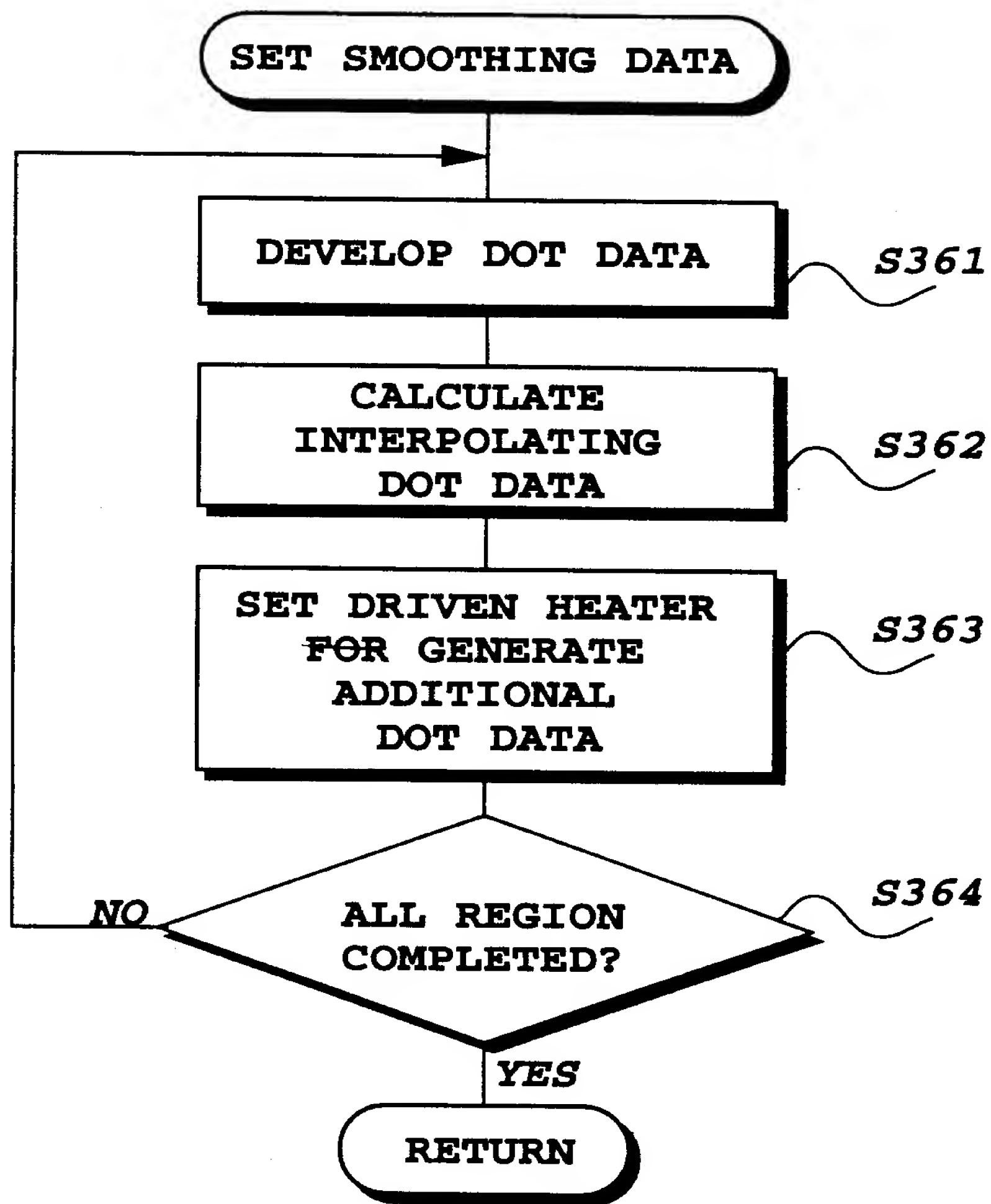


FIG. 42



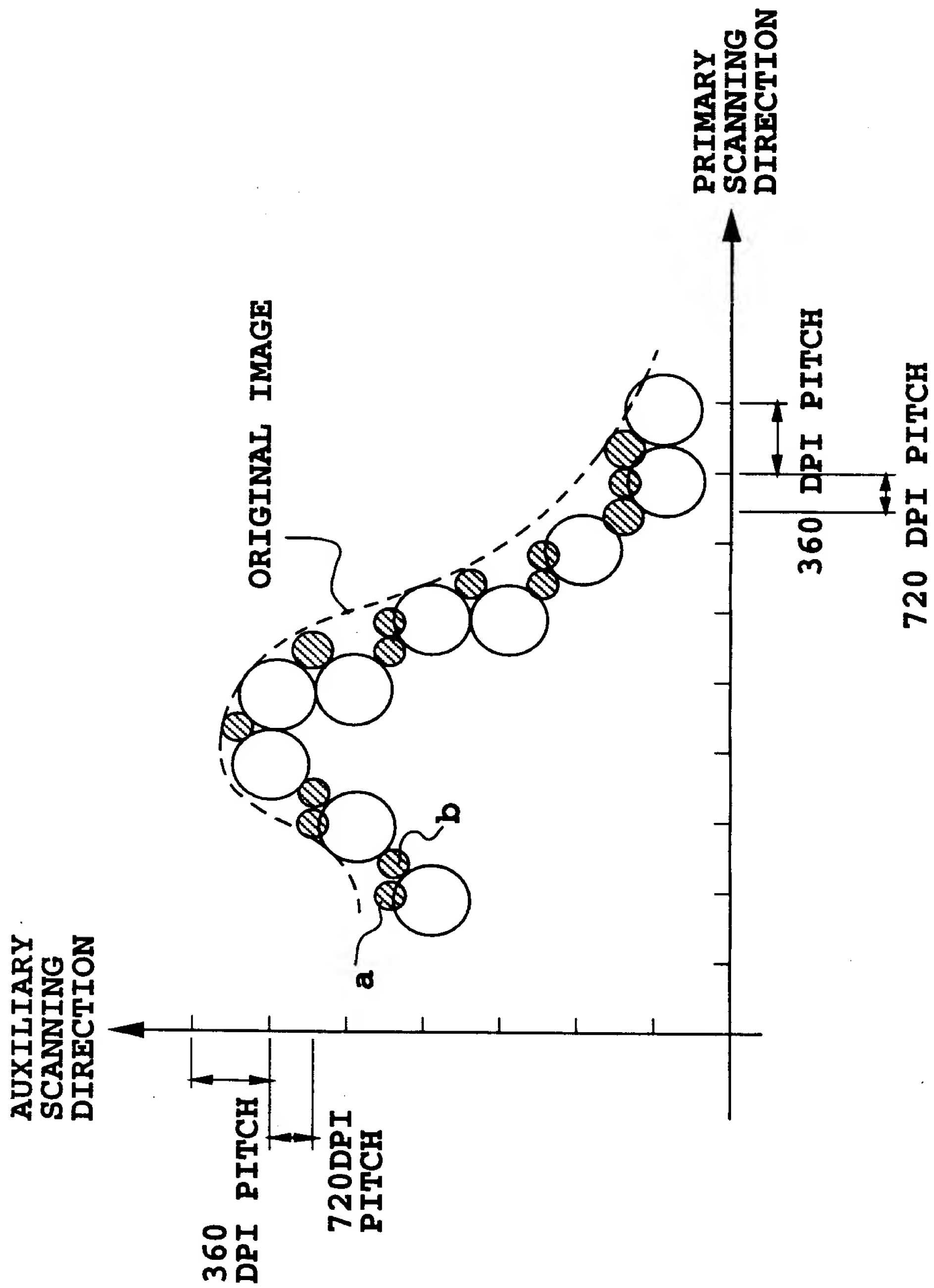
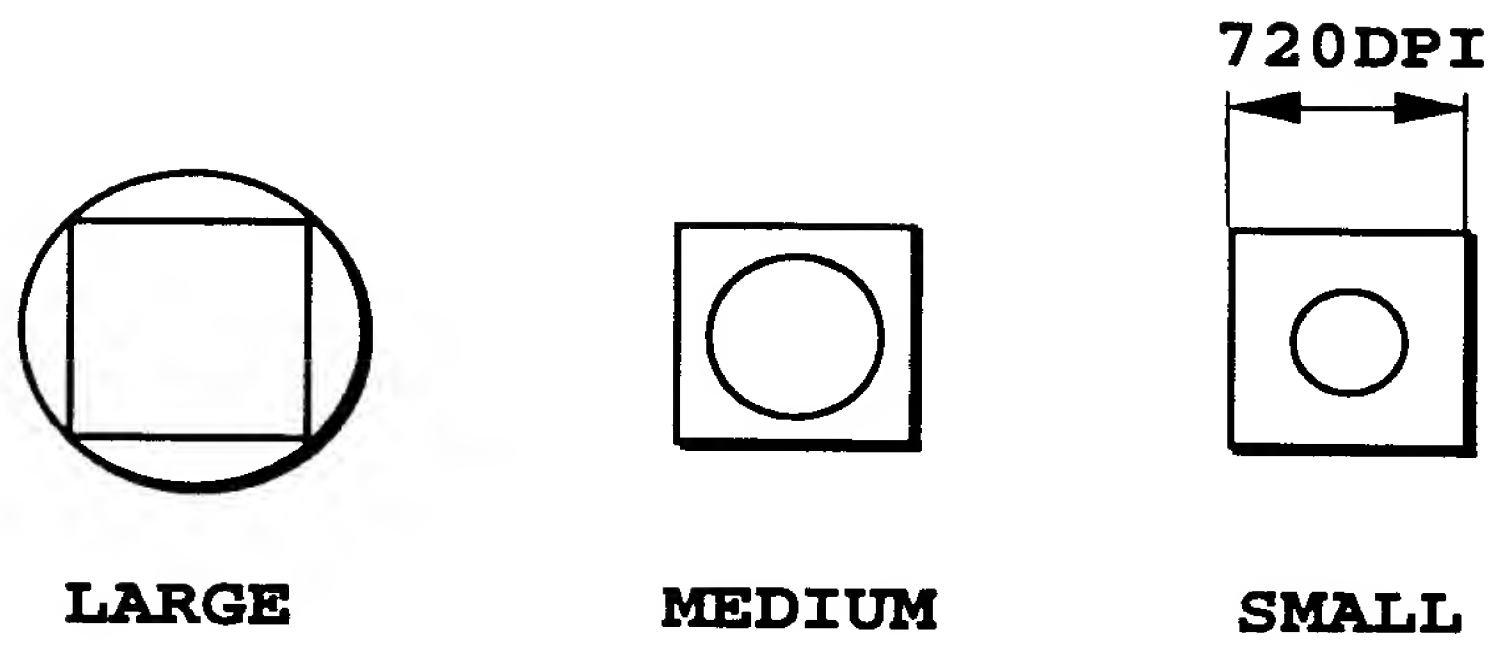


FIG.43



**FIG.44**

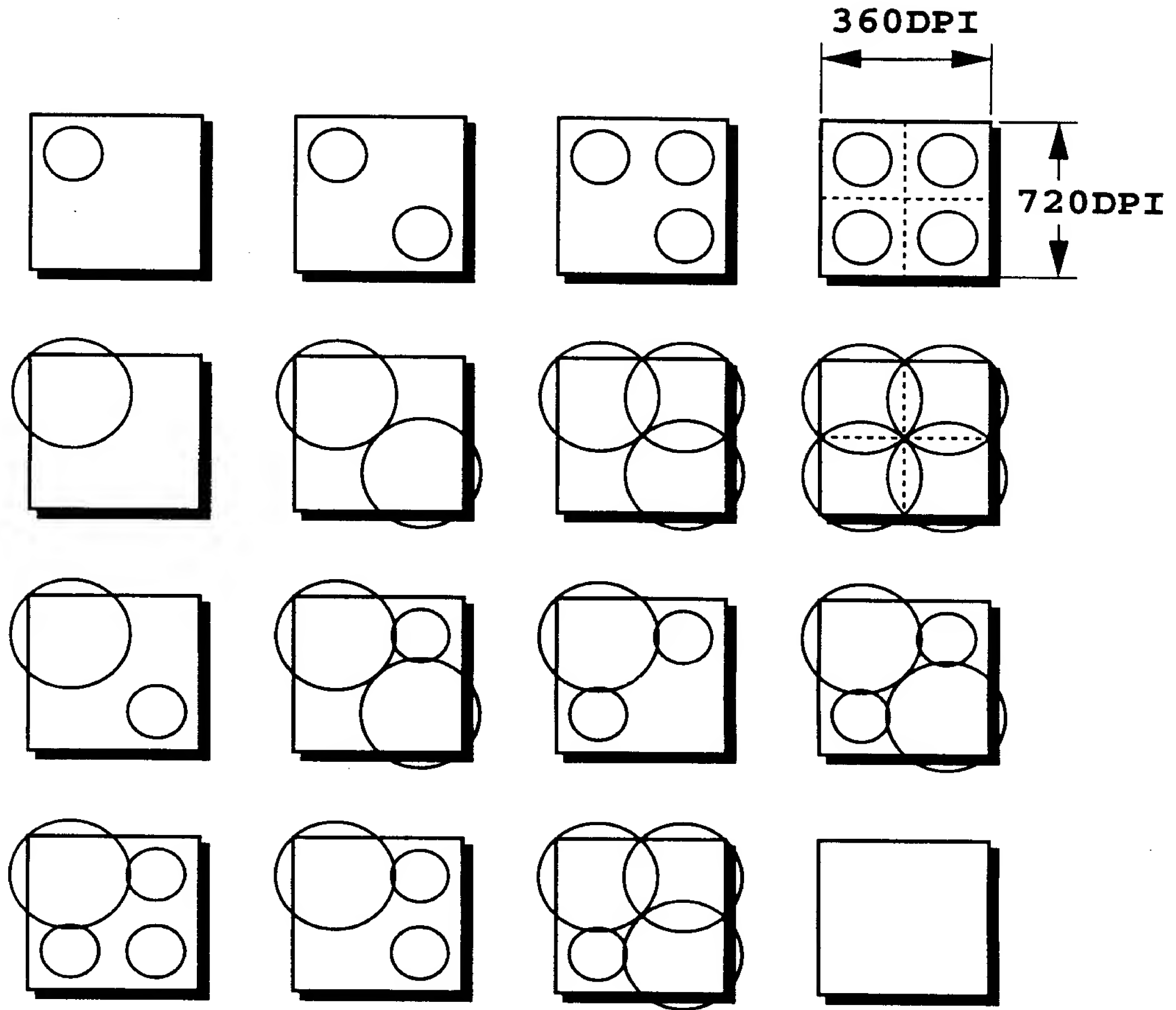
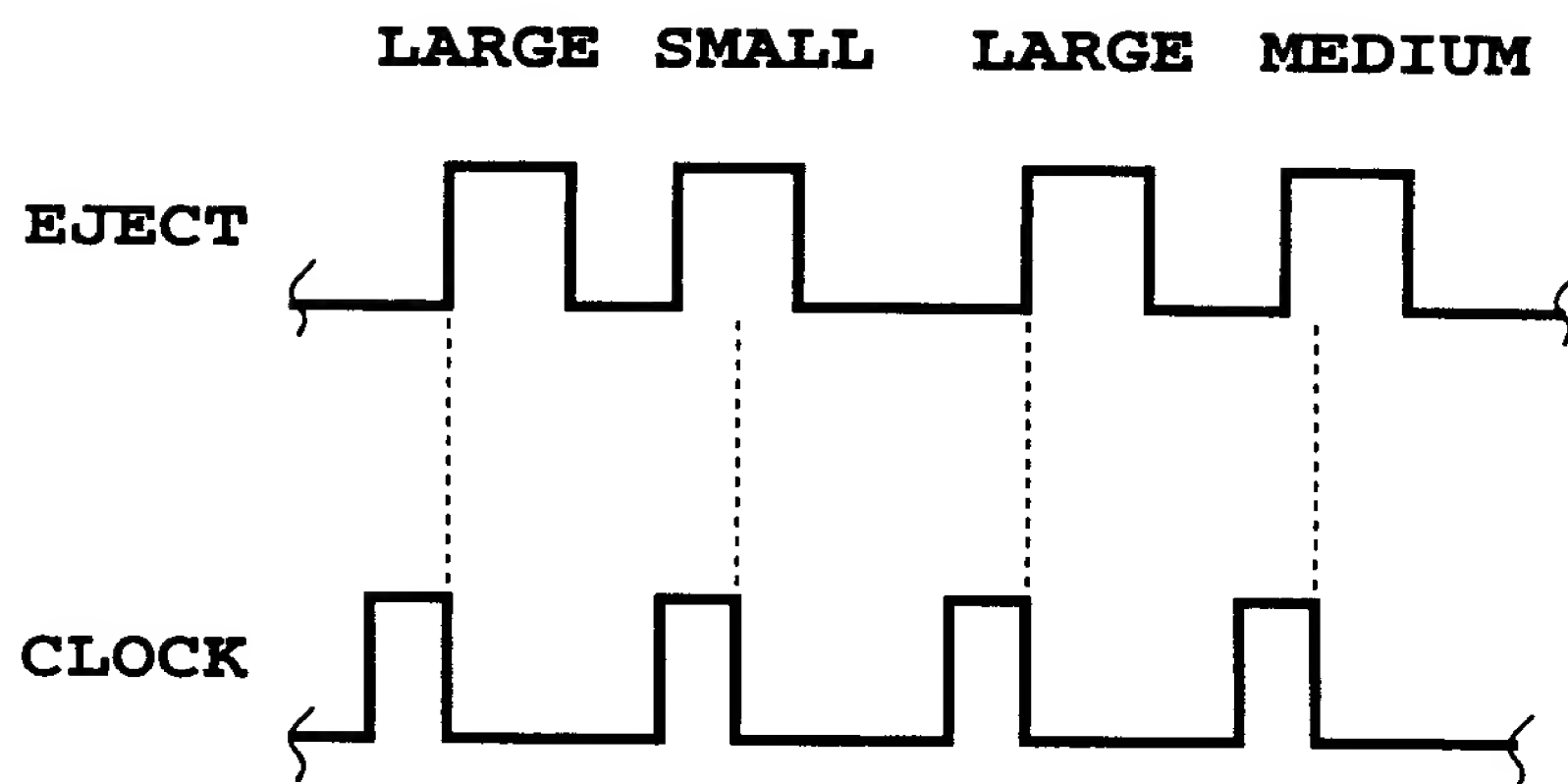


FIG.45



**FIG.46A**

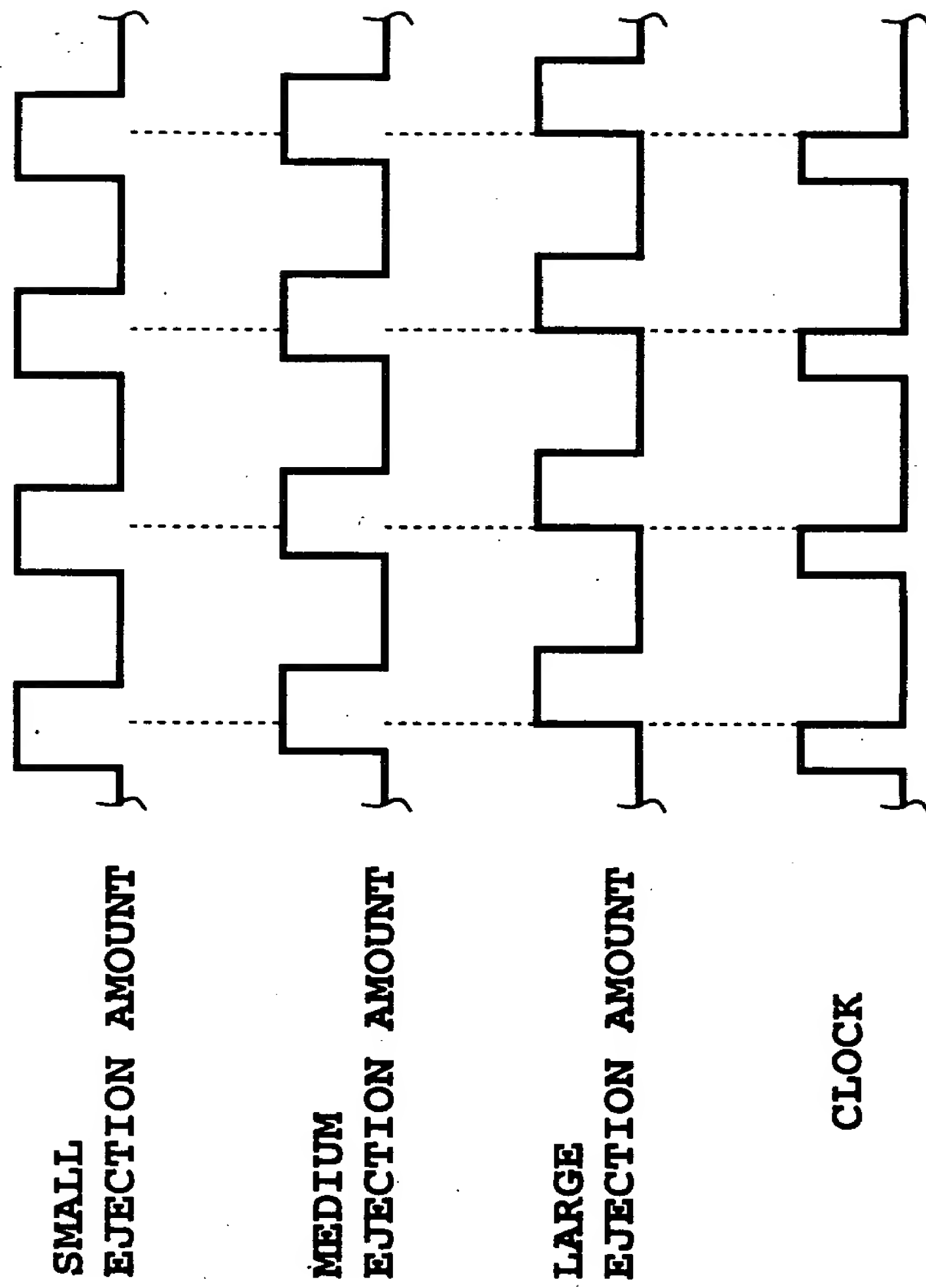


FIG. 46B

62/81

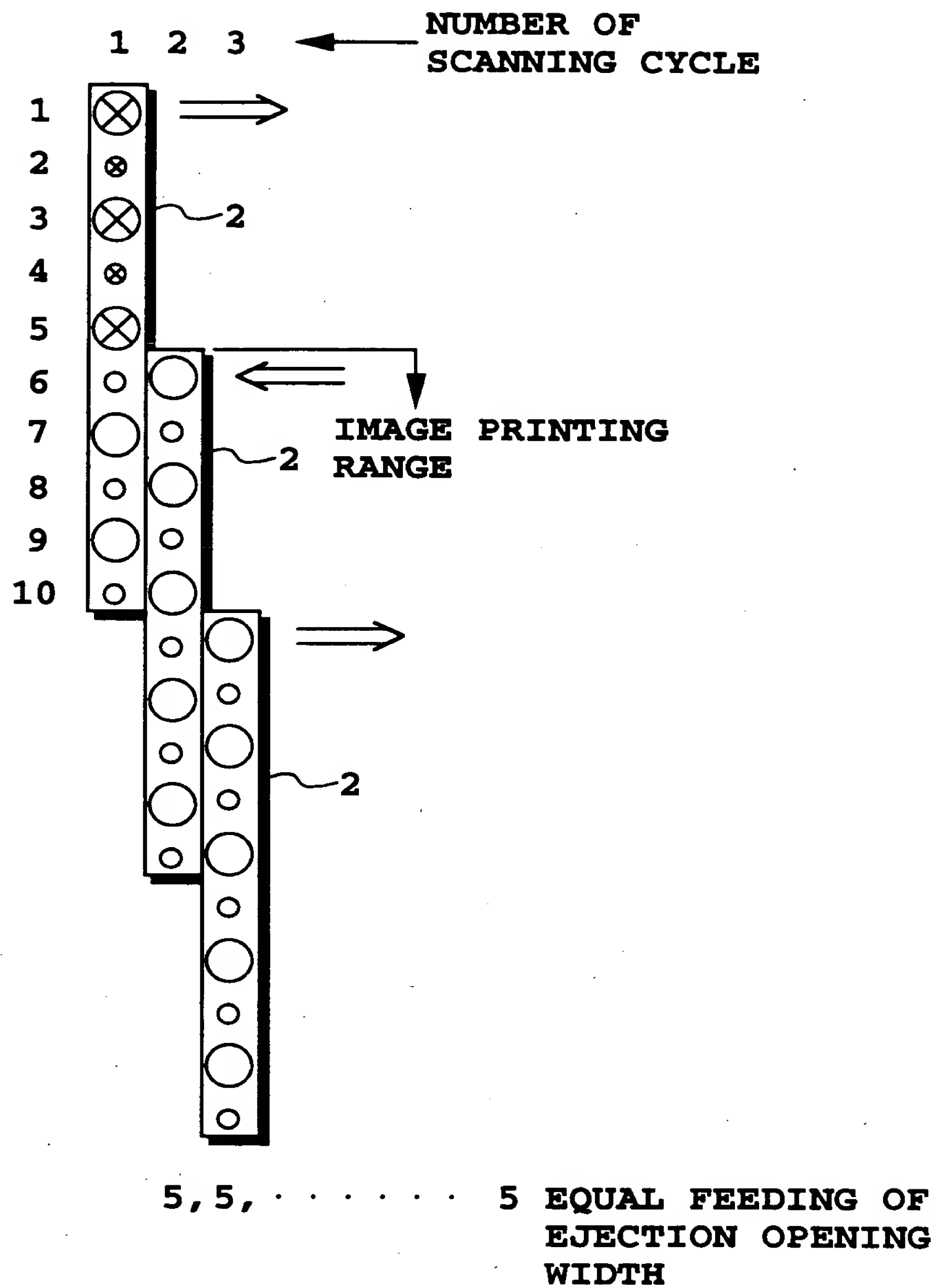
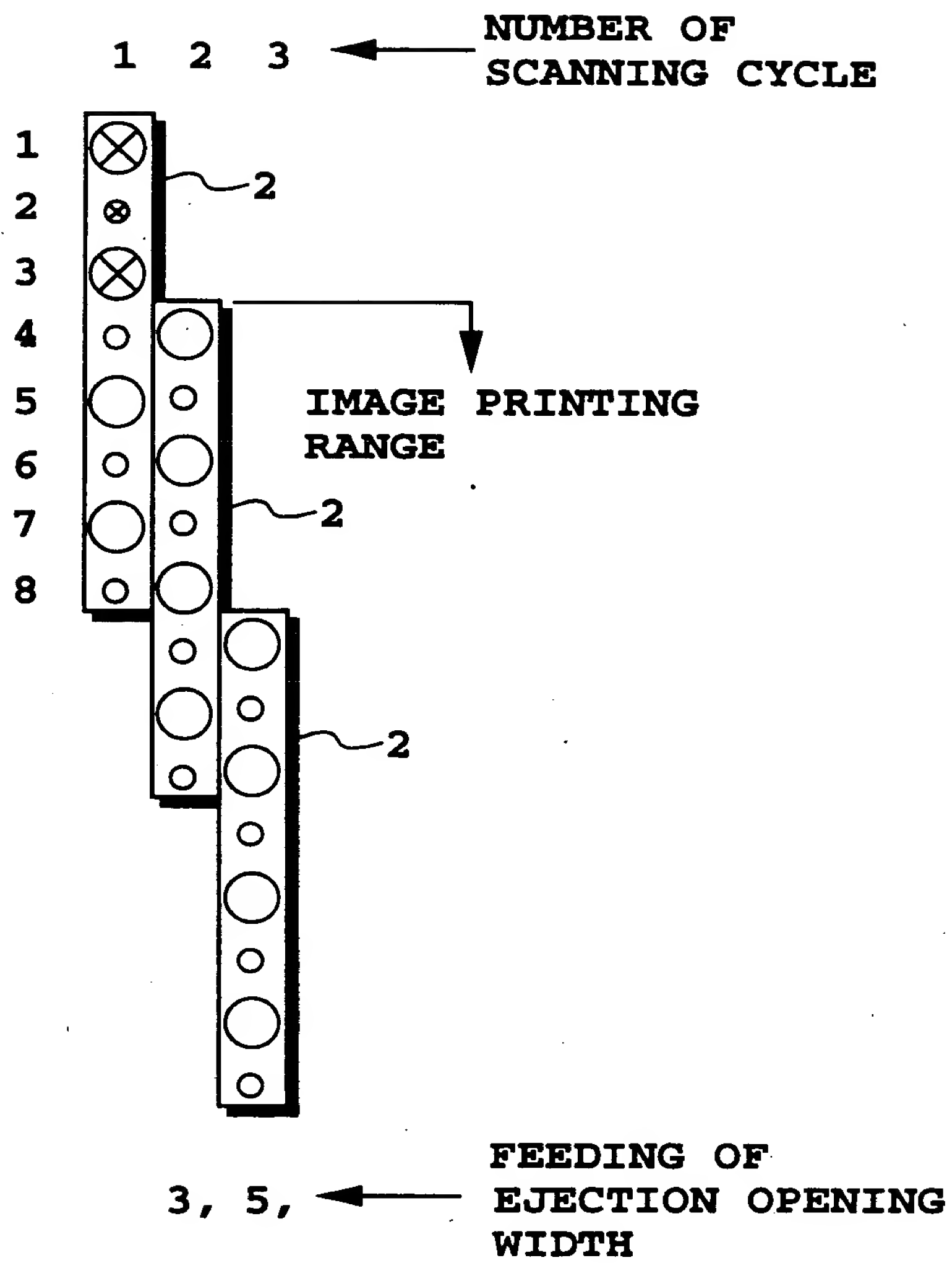
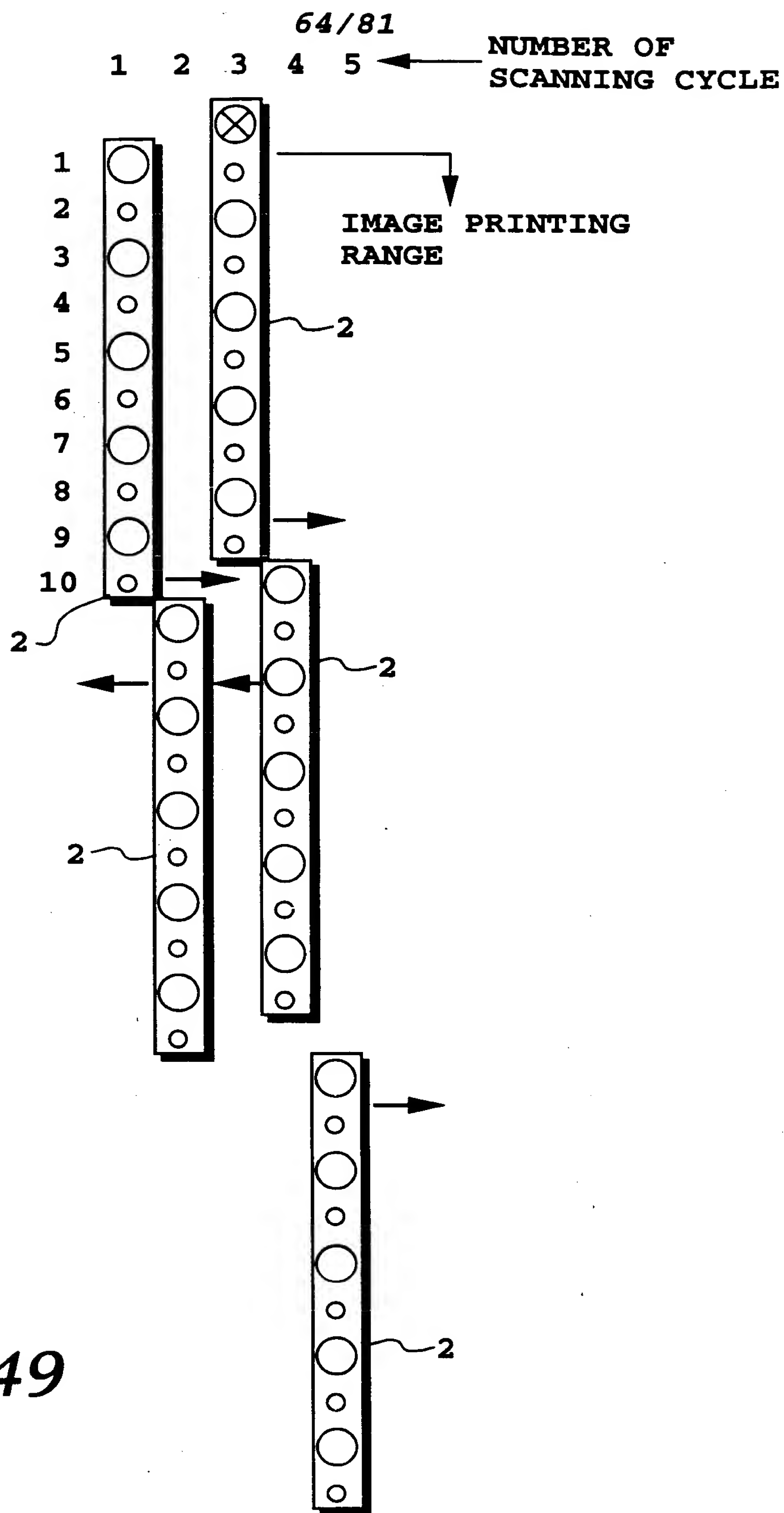


FIG.47

63/81



**FIG.48**



**FIG.49**



65/81

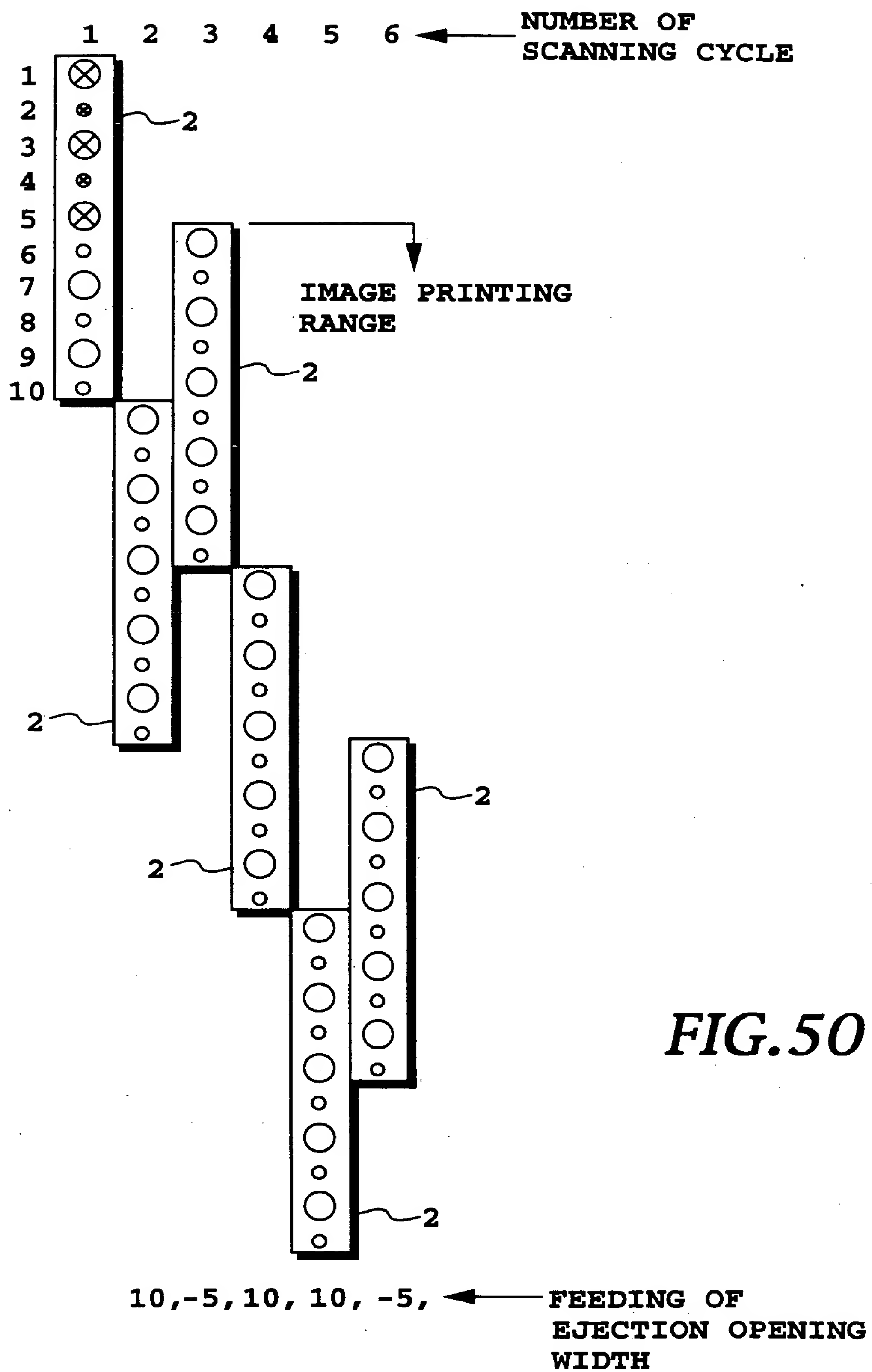


FIG. 50

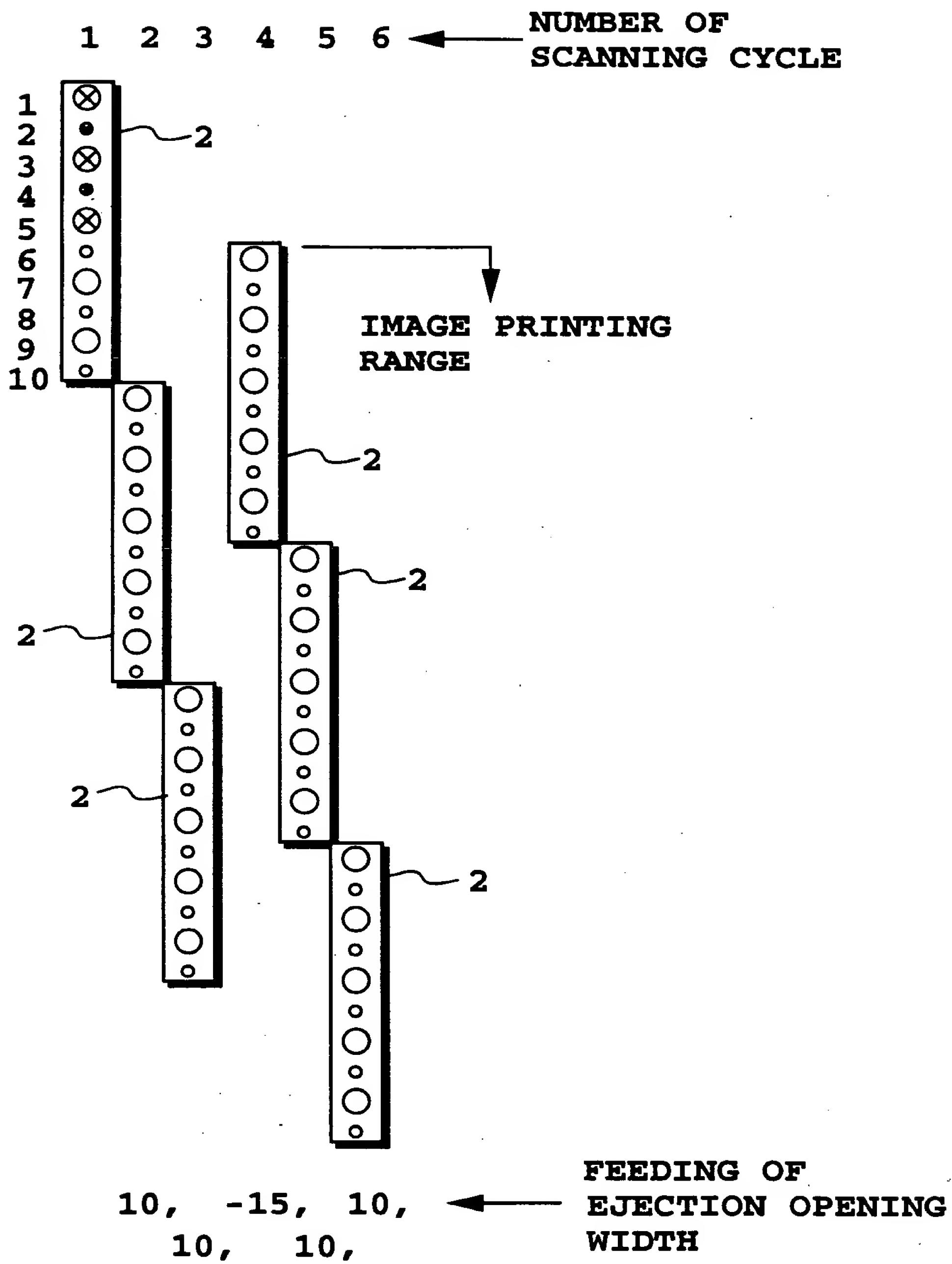


FIG.51

67/81

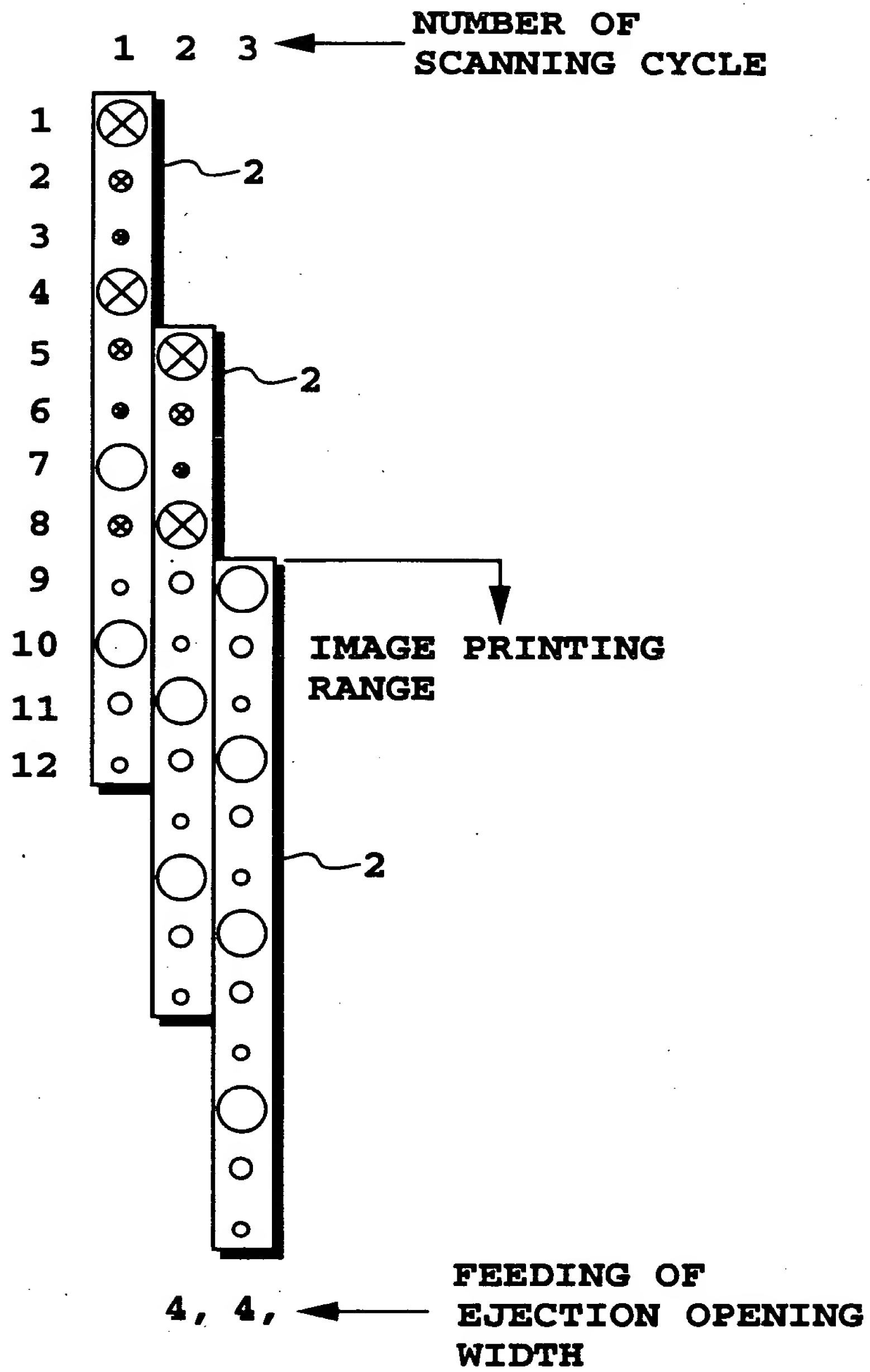


FIG.52

68/81

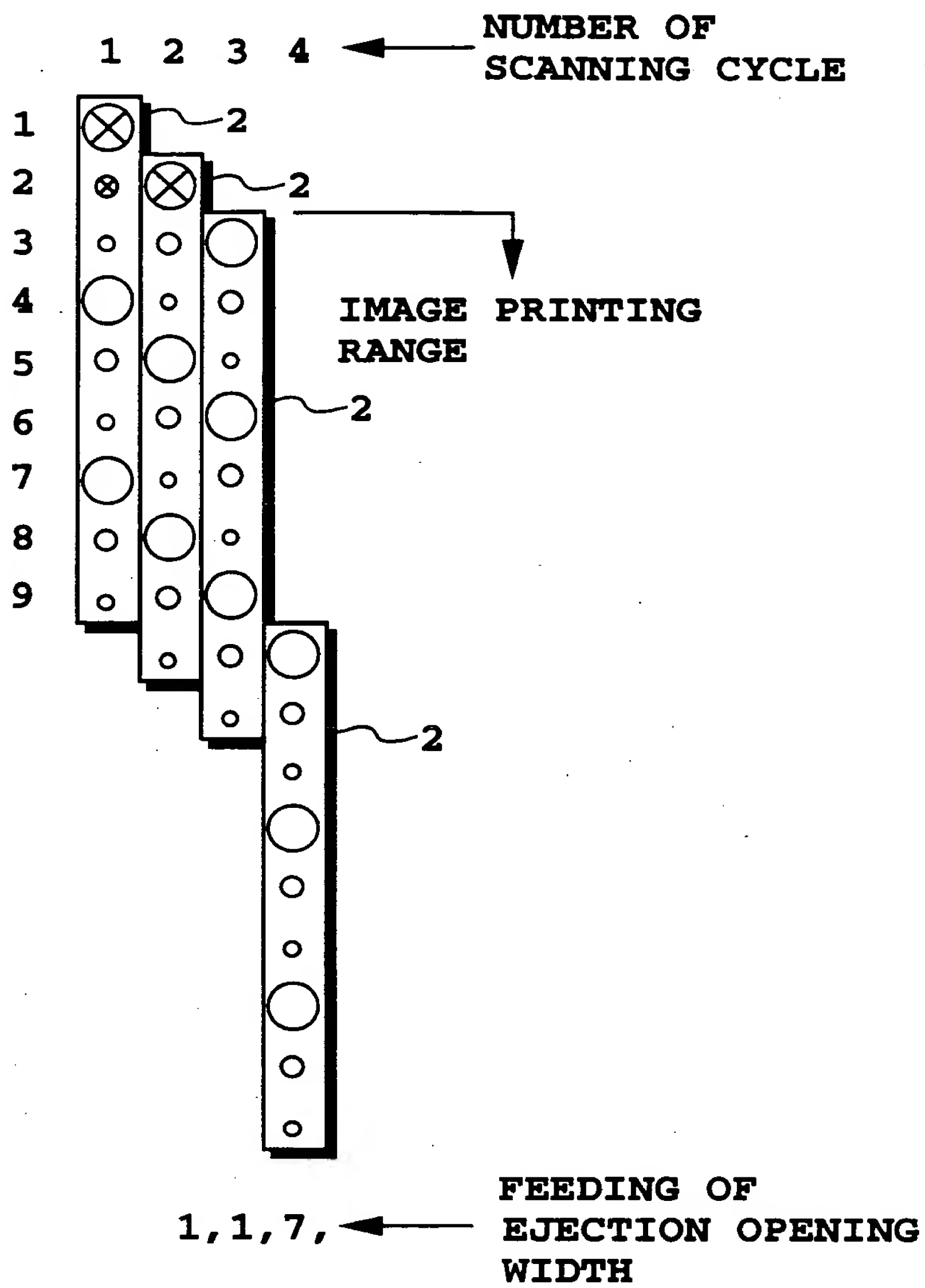


FIG.53

69/81

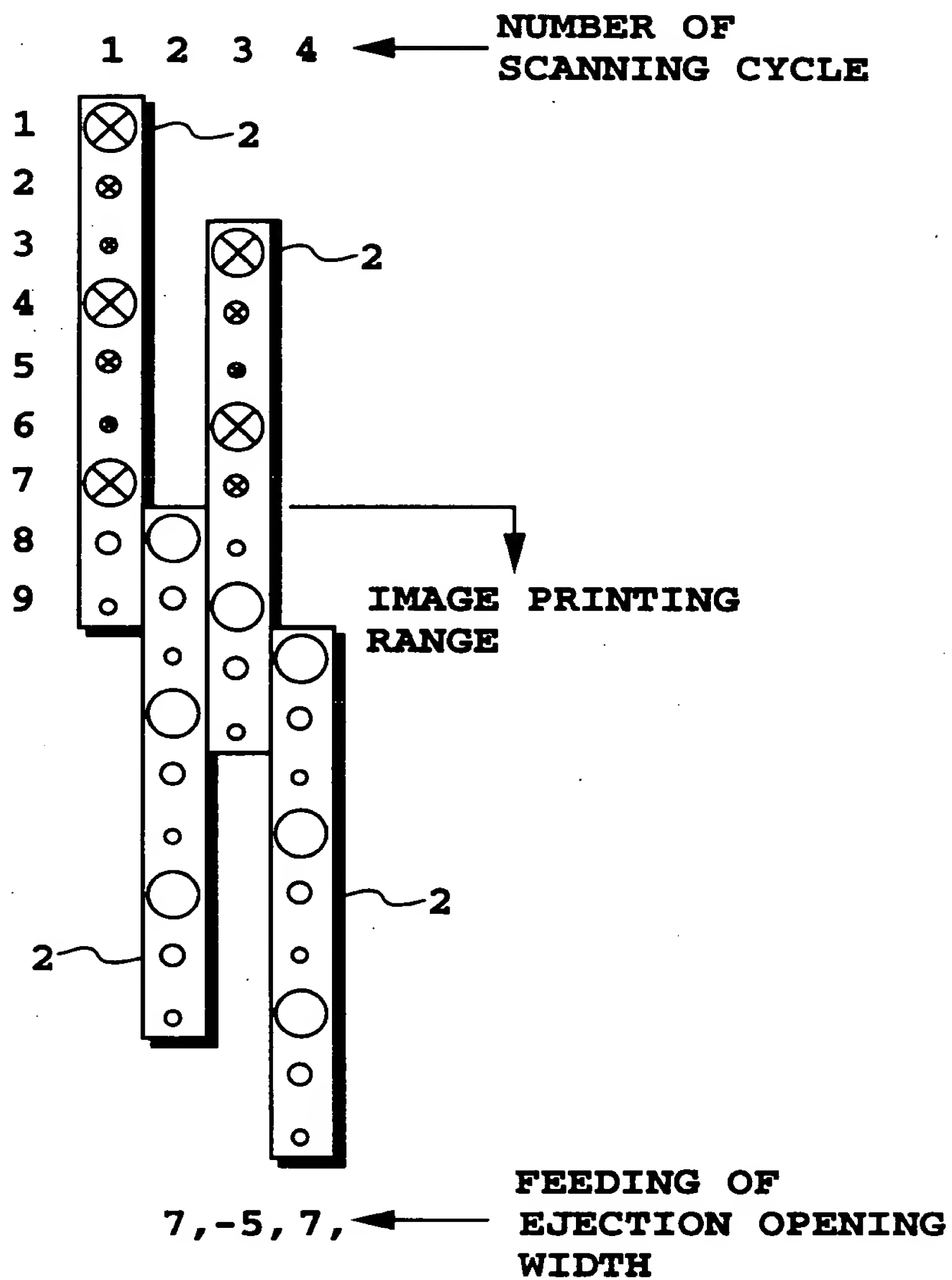


FIG.54

70/81

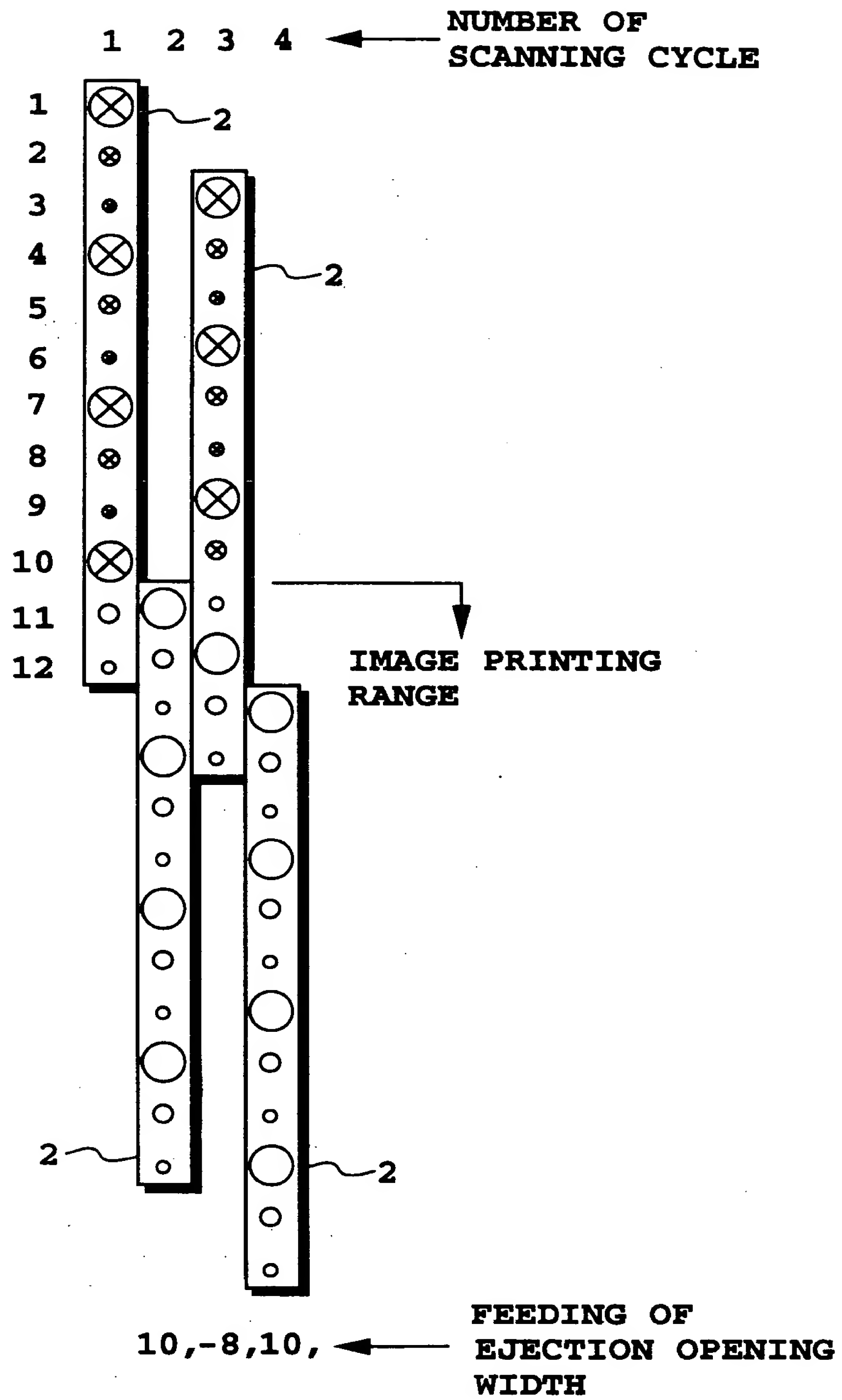


FIG.55

NUMBER OF  
SCANNING CYCLE

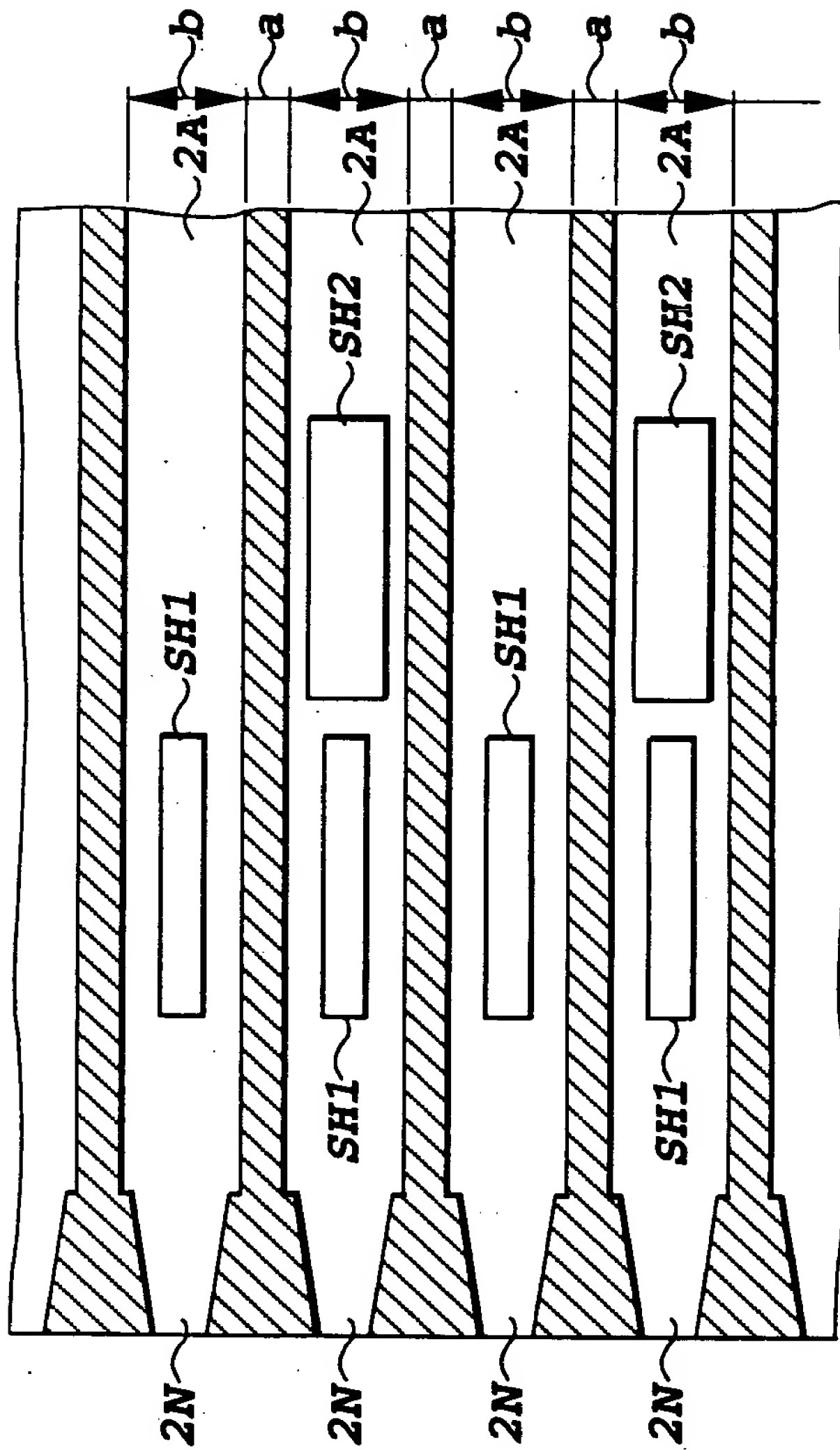
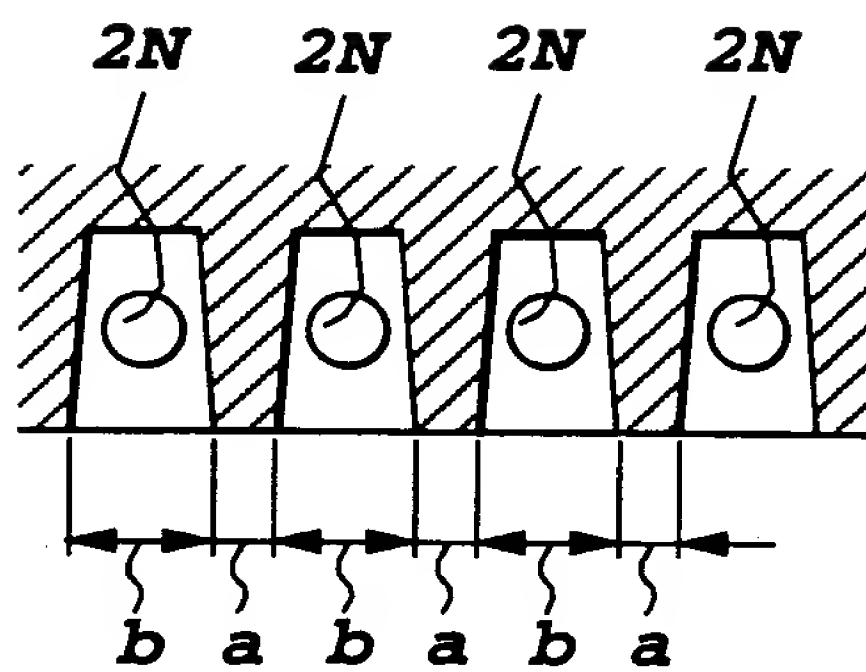


FIG. 57A



73/81



**FIG.57B**

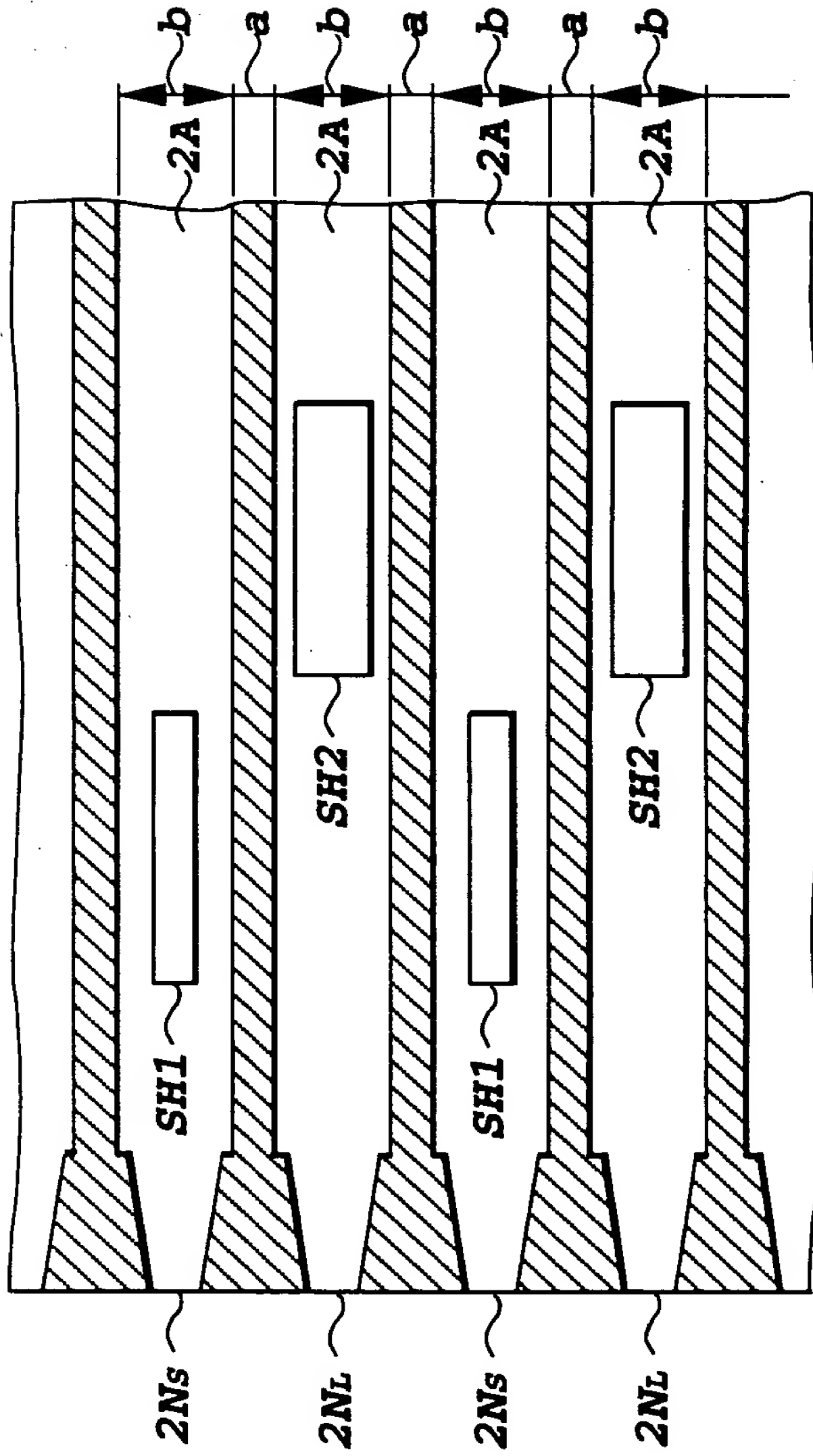
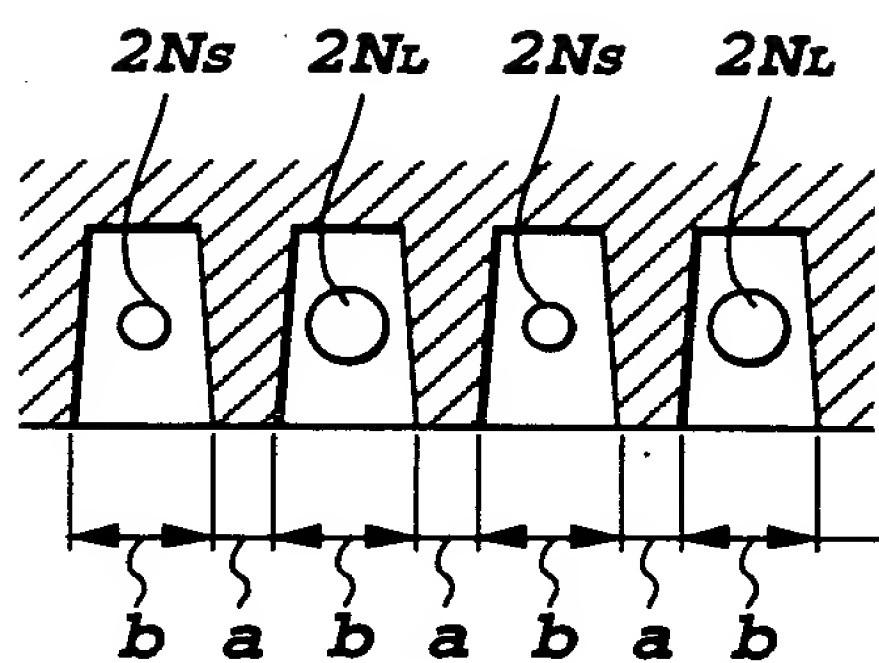


FIG. 58A

75/81



**FIG.58B**

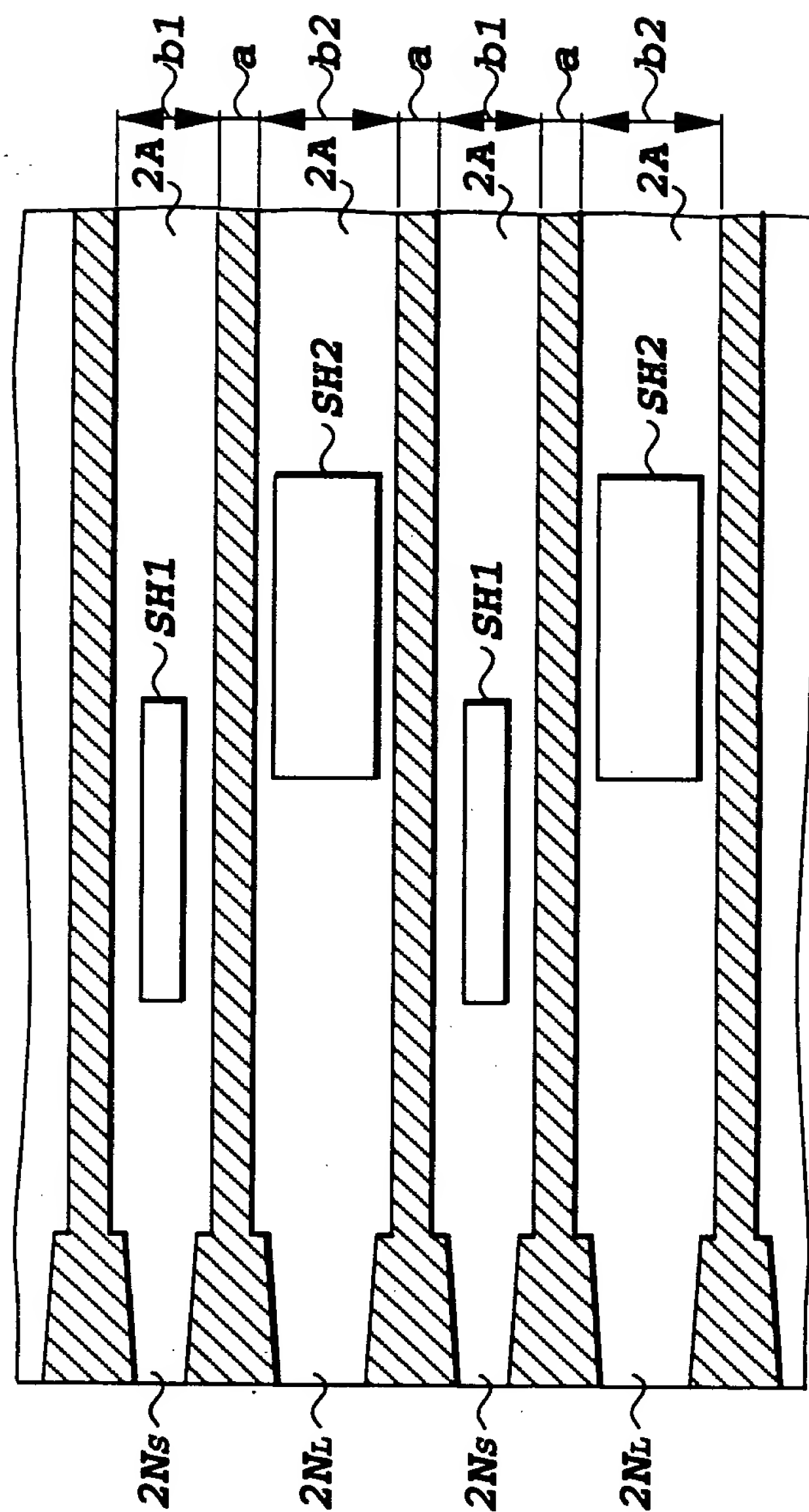
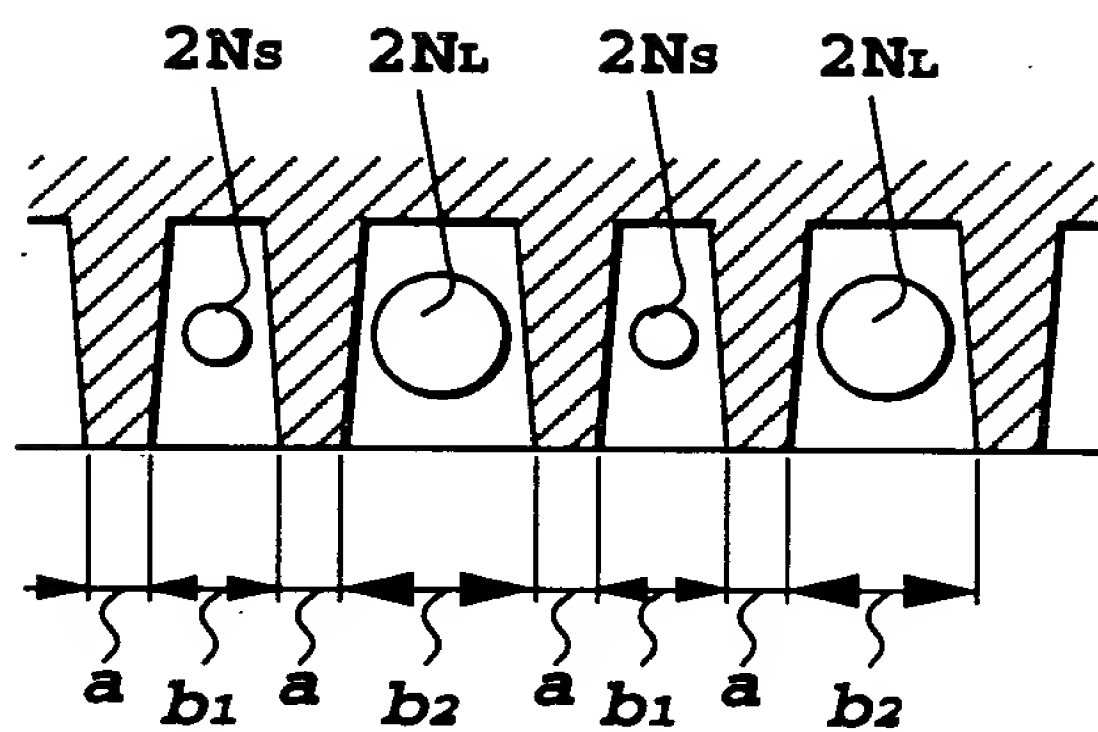


FIG. 59A

**FIG.59B**

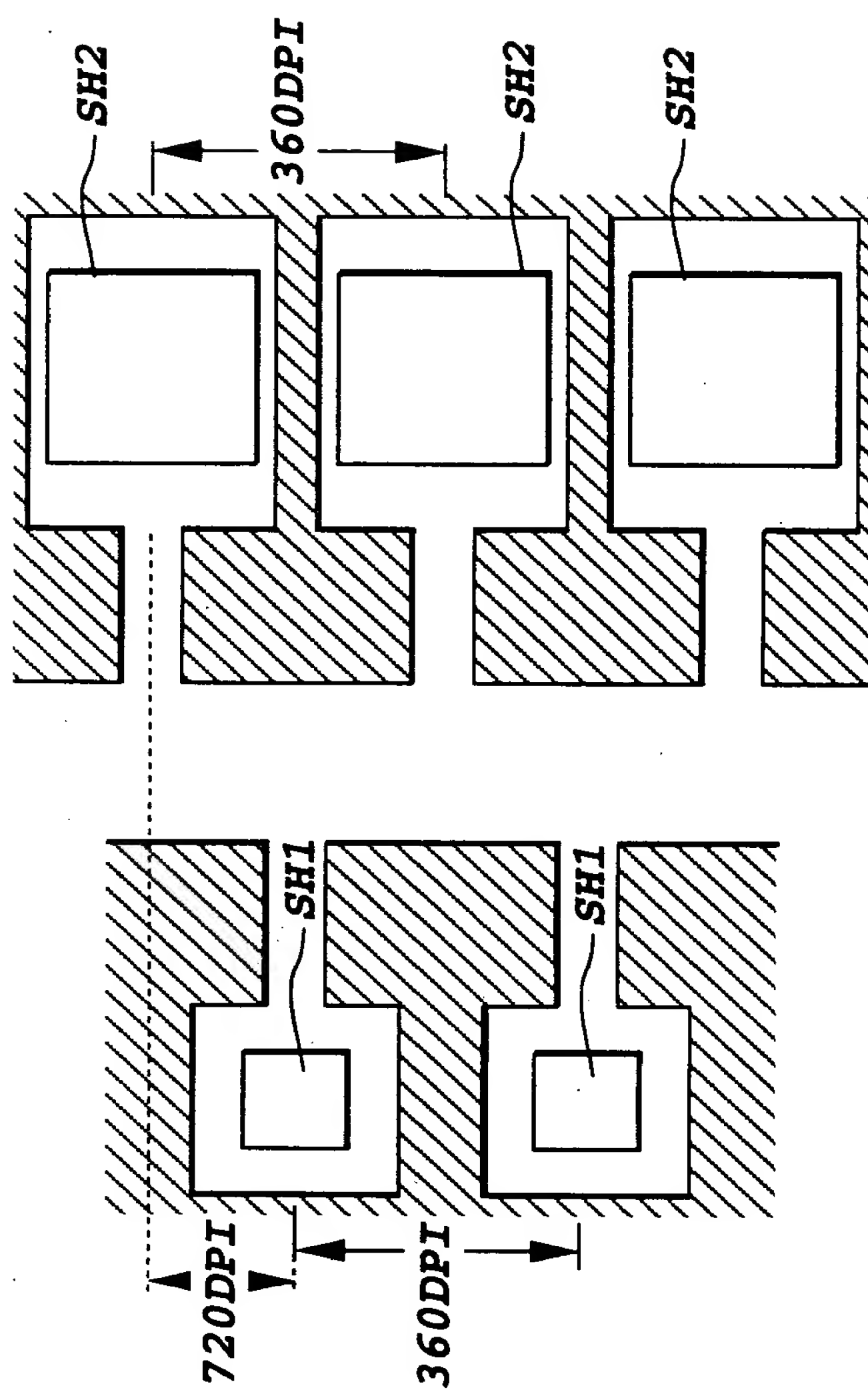


FIG. 60A

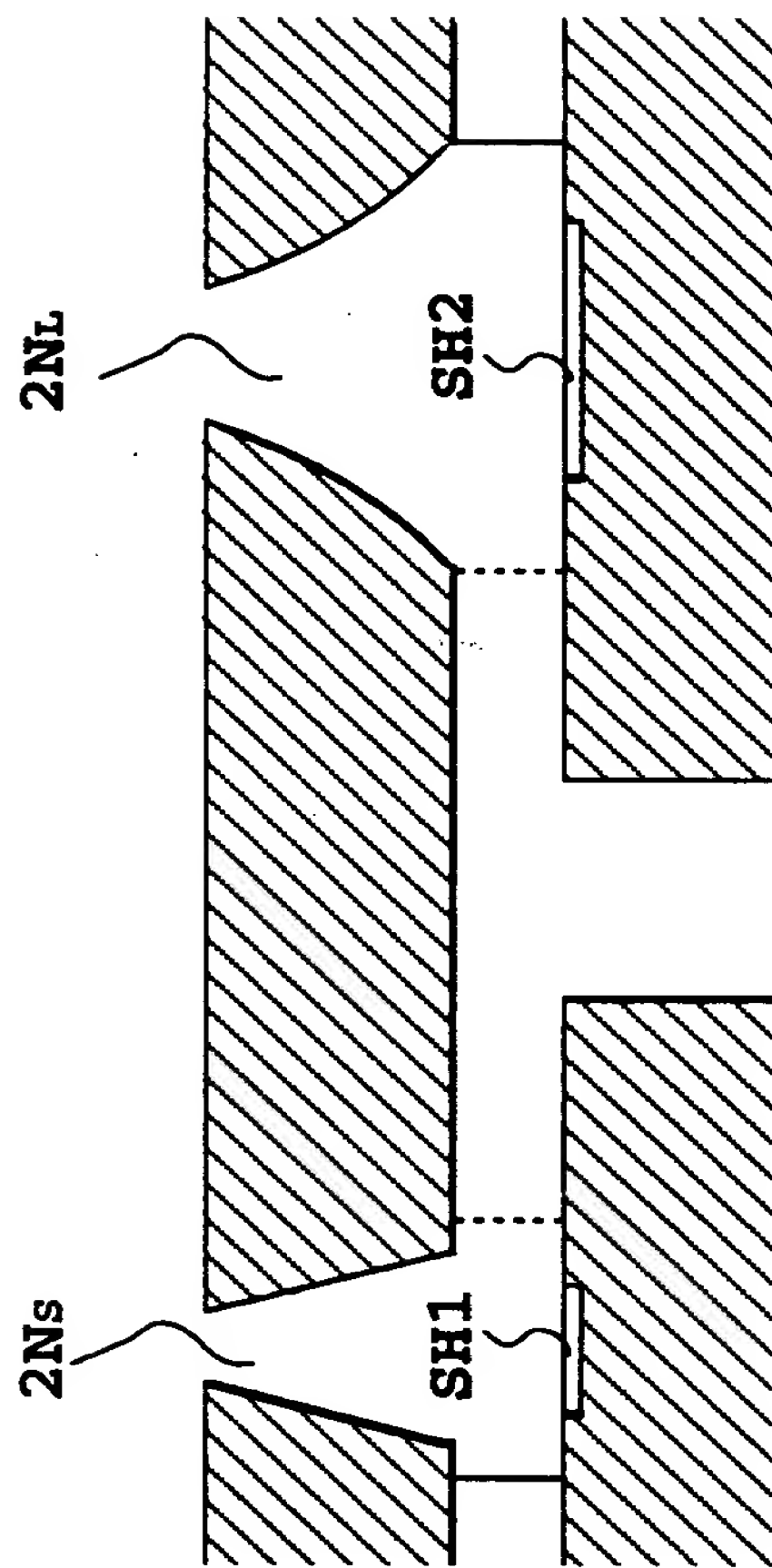


FIG. 60B

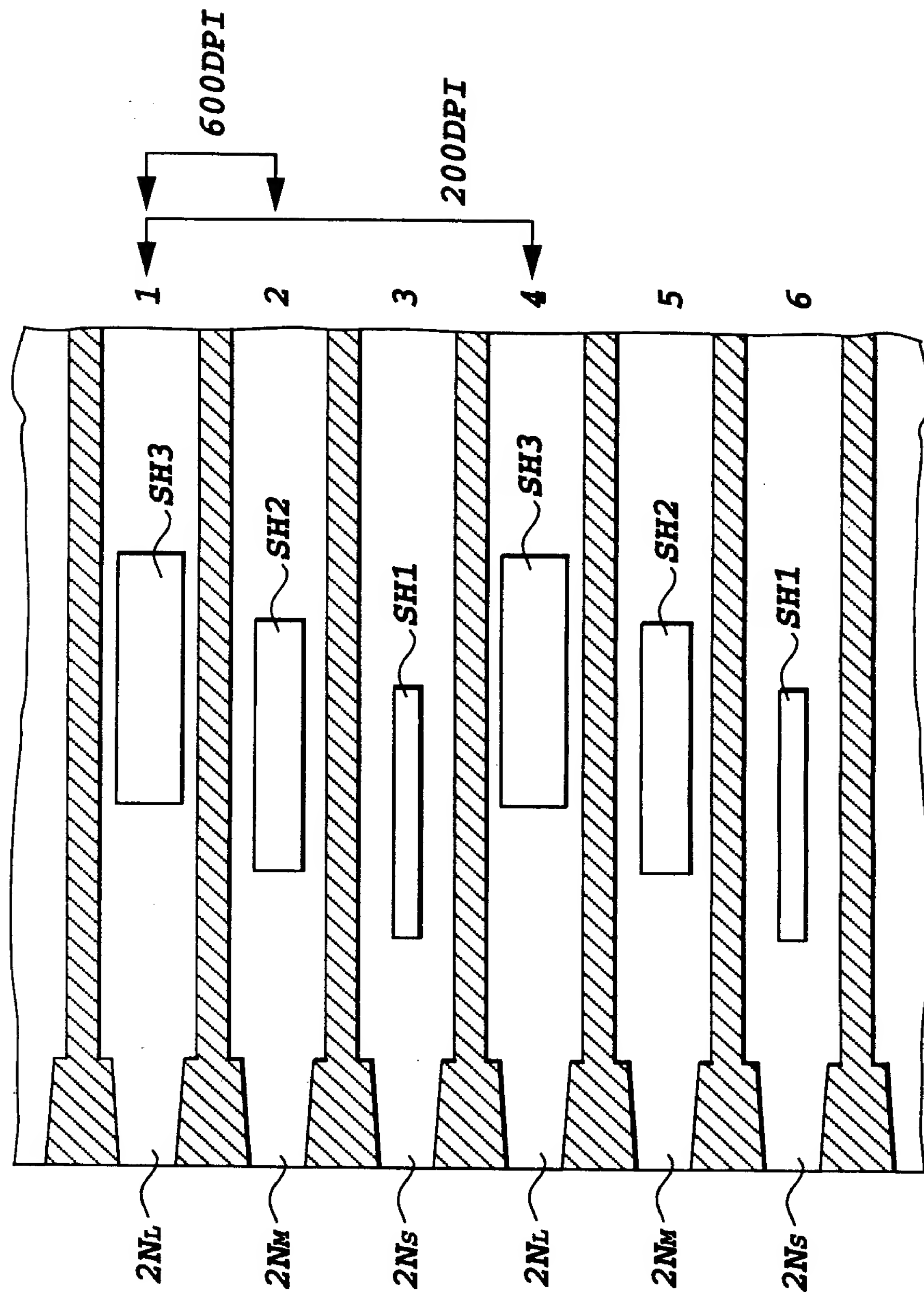


FIG.61



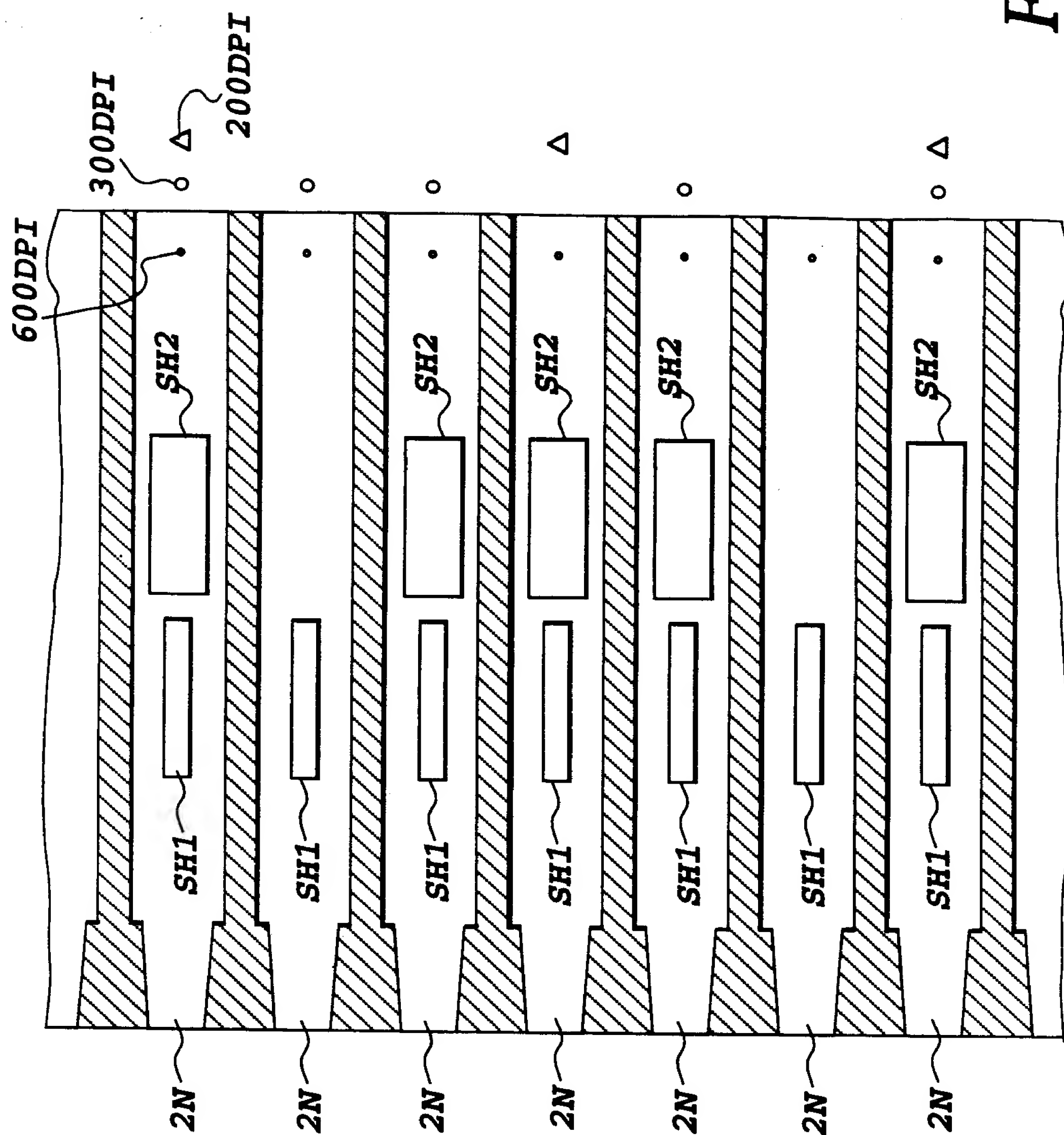


FIG. 62